User Manual for GHOST Bikes

Dear Customer,

We wish to congratulate you on your choice of a bike from our company, and to thank you for the faith placed in us.

With the purchase of this bike you have acquired a high-quality, environmentally friendly and sporting means of travel with which you will have a great deal of pleasure while at the same time doing something for your health and fitness.

Even after providing advice and carrying out the final assembly, your bike dealer is still very important to you. He is your contact person for maintenance, inspections, modifications and repairs of all kinds. Should you have any questions about our product, please contact your bike dealer.

1 About this User Manual

1.1 User manual

Danger of personal injury and material damage!

Failure to observe the information in this user manual can result in dangerous riding situations, falls, accidents and material damage.

- **Read this user manual carefully before using your bike for the first time.**
- **All the parts of the bike mentioned below are illustrated in the figures.**
- **Keep this user manual in a safe place and pass it on together with the bike if you should resell or give away the bike.**
- **It is your responsibility to inspect your bike as prescribed and to have any necessary work carried out.**
- **If any part(s) of this user manual are not comprehensible, please consult your dealer.**

Danger of personal injury and material damage!

User manual for children and youths.

This user manual is directed at the guardians of the children and youths who use this bike.

If the children and/or youths under your guardianship fail to observe the information in this user manual this can result in dangerous riding situations, falls, accidents and material damage.

- **Where in this user manual sentences such as "You can get ...", "Have your bike..." etc. occur, these are directed in each case at the child or youth and his/her bike.**
- **Go through this user manual together and explain all the points to your child, in particular the safety precautions.**
- **As guardian you are responsible for ensuring the safety of this bike and its proper use.**

1.1.1 Scope

This user manual applies exclusively to the bikes from GHOST Bikes GmbH with which this user manual is supplied.

Danger of personal injury and material damage!

- **This user manual is not intended to teach you how to ride a bike.**
- **This user manual is not intended to teach you riding techniques.**

1.1.2 Referenced documents

- Component user manuals

Danger of personal injury and material damage!

- **Due to the wide variety of existing bike components, it is not possible to produce a generally applicable user manual.**
- **Therefore always observe also the information in the component user manuals supplied with the bike.**
- **This information takes priority in all cases over deviating information in the following text.**

1.2 Conventions

1.2.1 Symbols

Note!

Draws attention to information of particular importance.

Warning!

Draws attention to the possibility of minor personal injuries and possible material damage.

Danger!

Draws attention to the possibility of serious personal injury or even death.

Risk of burns!

The temperature is above 45° C (solidification of egg white) and can cause burns to the human skin.

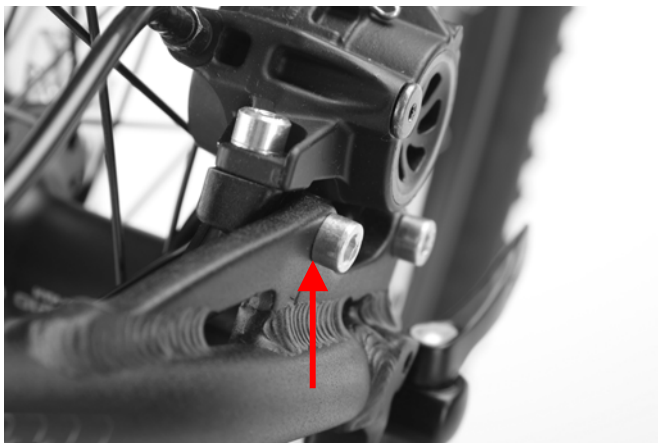
1.2.2 Definitions of positions

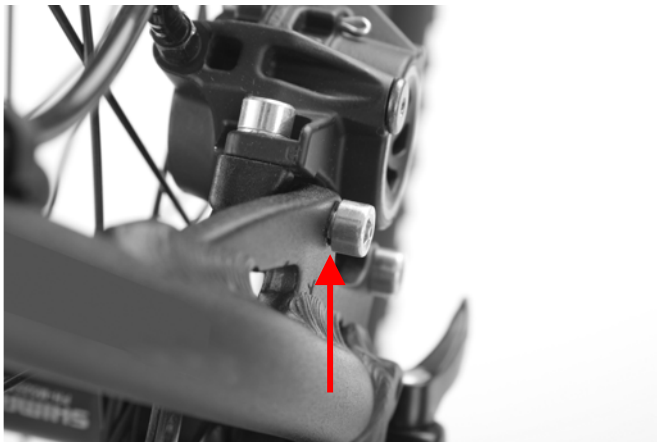
When the positions “right”, “left”, “front” or “rear” are referred to in this user manual, these are always as seen “in the direction of travel”.

1.2.3 List of abbreviations

StVO	German road traffic regulations
StVZO	German motor vehicle safety standards
MTB	Mountain bike
HWK	Chamber of Commerce

1.2.4 Definitions of terms

Dealer/approved workshop	In Germany: The term “dealer” and/or “approved workshop” as used in this user manual refers to dealers with qualifications as two-wheeler mechanic and/or bike mechanic who are authorised by the Chamber of Commerce to operate an approved workshop. These must also be authorised by the manufacturer of this bike to inspect and confirm the correct final assembly and safety for use of a bike.
Correctly tightened	The term “correctly tightened” defines the condition in which the whole surface of the screw/bolt head is firmly in contact with the component. 
Not correctly tightened	A loose screw or bolt can often be recognised by a protruding bolt head.



Wobble	A deviation in concentricity at the wheel rim is referred to colloquially as “wobble”.
Bar	Common unit of measure for air pressure
inch	abbreviated to ” English or American unit of length often used for frame and wheel sizes 1” = 2.54 cm
psi	pounds per square inch; English or American unit for pressure; 1 psi = 0.069 bar
Nm	Newton-metre; unit of measure for (tightening) torque
Hand force	The force that an average person can apply with moderate effort using one hand.

2 For Your Safety

2.1 Use your bike for its intended purpose

2.1.1 Who is allowed to ride your bike?

Danger of personal injury and material damage!

The rider must be able to ride a bike, i.e. he/she must have the necessary basic knowledge about the use of a bike and the necessary feeling of balance to be able to steer and control a bike.

- **The rider must be of the right height for this bike (ask your dealer).**
- **The rider must be physically and mentally capable of using this bike on public roads, as long as the bike is approved for such use.**
- **Children and youths must be able to operate the bike safely. The operating elements (e.g. brake levers) must be suitable for children's hands.**

2.1.2 How are you allowed to ride your bike?

Danger of personal injury and material damage!

Sit on the saddle or ride standing up on the pedals.

- **Hold the left-hand grip of the handlebars with your left hand and the right-hand grip with your right hand.**
- **When riding, place your left foot on the left pedal and your right foot on the right pedal.**
- **Use the bike exclusively as a pure means of travel.**

2.1.3 Where are you allowed to ride your bike?

Danger of personal injury and material damage!

All bikes from this manufacturer are divided into categories. You can find the category of your bike in your BIKE SERVICE CARD. It is entered there by your dealer on purchase (see also chapter 4).

The following categories apply to streets and paths:

- Street: Asphalted surface
- Path: Sand, gravel or similar surface (e.g. timber access road, field track)
- Solidified footpath: No or few roots, steps, stones or shoulders, etc.
- Non-solidified footpath: Frequent roots, steps, stones or shoulders, etc.
- Bike park: Specially marked area for Freeriding, Downhill, 4X and Dirt
  Freeriding: Artistic and sporting use, rapid downhill riding in free terrain.
  Downhill: Downhill riding of specially marked tracks at high to very high speed
  4-X and dirt: Tracks similar to those for BMX

Your safety on these streets and paths depends on your speed.

- **The higher your speed, the greater your risk!**
- **Note that all streets and paths may be damaged and/or have obstacles that can impair your safety and damage your bike.**
- **In such areas ride particularly slowly and carefully. If necessary push or carry your bike over such obstacles.**

Danger of personal injury and material damage!

From a technical point of view we have approved the following model series for use <u>up to</u> the following streets and paths.

- RACE: Street, no jumps
- Wheels of all categories if fitted with racing bike-type tyres (see below) Street, no jumps
- SPEEDLINE: Street, paths in exceptional cases with fine and solid subsoil, no jumps
- CROSS: Paths, no jumps
- TR: Paths, no jumps
- POWERKID 12” and 16”: Paths, no jumps
- POWERKID 20” and 24”: Solidified footpaths, no jumps
- SE, HTX, MISS, RT: Solidified footpaths, no jumps
- AMR, ASX: Non-solidified footpaths

- AMR Plus, AMR Square, ERT: Non-solidified footpaths in sporting applications
- 4X, DIRT: Bike park, but without freeriding and downhill
- FR Northshore: Bike park

Sporting application: High speed so that e.g. when riding over edges, steps and ground waves you jump with your bike.

Bikes of other categories can also be fitted with racing bike or racing bike-type tyres. Such tyres can be recognised from the maximum width of 28 mm indicated e.g. by two number of the tyre such as 28-622 or 28-559.

- **Such bikes may then only be used on asphalted streets.**
- **Please consult your dealer.**

Danger of personal injury and material damage!

Whenever using your bike, particularly for

- **Sporting applications (high-speed riding over edges, street steps, ground waves, etc.)**
- **Use of your bike in the bike park, for sporting applications, where there is always a risk of accidents,**

Adapt the use of your bike to your riding skills!

2.1.4 In what condition must your bike be for riding?

Your new bike is sports equipment and may only be used on public roads and paths when fitted with the accessories stipulated in your local motor vehicle safety standards. In order to comply with the latest motor vehicle safety standards your bike must exhibit i.a. the features described below in excerpts.

For the full wording of the regulations in Germany, please refer to the StVZO or consult your dealer.

For use outside Germany, please observe the traffic regulations applicable in your country. Consult your dealer or the responsible authorities.

- Two independently functioning brakes
- A bell
- Dynamo-powered lights for front (white light) and rear (red light)

Racing bikes under 11 kg are exempted from the dynamo obligation.

Even racing bikes exempted from the dynamo obligation have to carry battery-powered lighting during the day.

For the duration of the participation in races, racing bikes are exempted from this obligation.

- White reflector at the front (often integrated into the front light) and a large red reflector marked with the letter “Z” at the rear.
- Two yellow reflectors each for front and rear wheel; alternatively: Tyres with reflective stripes on both sides
- Two yellow reflectors each for right and left pedal

All lighting components and reflector parts must be approved.

The approval is recognisable from the marking with a “K”, a wavy line and a multi-digit number.

For correct attachment of these parts to your bike, please consult your dealer.

- Chain sprocket guard

2.1.5 What must you not do

Danger of personal injury and material damage!

Many cyclists like to modify their bikes and adapt them to their personal wishes. Saddle, handlebars, pedals, brakes, tyres, suspension elements – there are innumerable possibilities for subsequent modification of your bike.

Work on your bike – even seemingly simple operations – requires thorough training, extensive know-how and great experience.

Unqualified work on your bike can result in dangerous riding situations, falls, accidents and material damage.

- **Do not attach any parts to your bike that are not expressly approved for your bike model.**
  Exceptions here are bike computers and bottle holders if they have been selected and fitted by your dealer.
  Please consult your dealer.
- **Have all attachment, modification, service and other work carried out exclusively by your local approved workshop.**

Danger of personal injury and material damage!

Roller training with carbon frame and/or carbon forks:

If your bike is fixed to a training device for roller training, the carbon fabric of the clamped part may be damaged and break later. This can lead to dangerous riding situations, falls, accidents and material damage.

- **Bikes with carbon forks must not be fixed to training devices where the forks are clamped.**
- **Bikes with carbon frames or frames with saddle and/or seat struts of carbon must not be fixed to training devices where the rear wheel is clamped.**

2.2 Residual risks

2.2.1 Hazards due to incorrect final assembly

Danger of personal injury and material damage!

Incorrect final assembly of this bike can lead to dangerous riding situations, falls, accidents and material damage.

- **Have the correct final assembly and the adjustment of the correct seating position for you confirmed by your dealer.**
- **Please use the preprinted form in this user manual.**

2.2.2 Hazards due to improper use

Danger of personal injury and material damage!

Failure to observe the information in this user manual can result in dangerous riding situations, falls, accidents and material damage.

- **Always wear a helmet when riding your bike.**
- **Ride with foresight and defensively.**
- **Do not ride after consuming alcohol.**
- **Ride in such a way that you have your bike under control at all times and can react correctly in the event of a sudden danger situation.**
- **Be aware that the efficiency of the brakes and dynamo can decrease in wet weather.**
- **When riding, wear only suitable clothing that does not hinder the operation of the bike or your sight.**

- **Always wear tight-fitting legwear when riding. Loose clothing can become tangled in the bike and lead to serious falls.**
- **In the dark and with poor visibility, wear clothing with reflective stripes and switch on your lights.**
- **Transport your luggage only on suitable carrier systems. These are bike backpacks or luggage carriers approved by the bike manufacturer. Please consult your dealer if you have any questions.**
- **Increased loads extend your braking distance.**
- **Note that some items of clothing and/or the use of a backpack can hinder your mobility.**
- **Do not exceed the admissible total weight of your bike, see chapter 3.2. Determine the admissible total weight by picking up your bike with the complete load and standing in your complete riding gear together with your bike on calibrated scales.**
- **Observe the maintenance and care instructions in chapters 11 and 12.**

2.3 Disposal

Dispose of your bike in an appropriate manner at the end of its service life.

Consult your dealer or an approved recycling company.

3 Scope of Supply, Technical Data

3.1 Scope of supply

GHOST bike with user manual

3.2 Technical data

Admissible ambient temperatures	-10 to +50° C	
Admissible total weight	Trekking:	140 kg
	MTB:	120 kg
	4X / Dirt:	120 kg
	Cross / Speedline:	120 kg
	Race:	120 kg
	Powerkid 24” (*):	100 kg
	Powerkid 20” (*):	80 kg
	Powerkid 12” / 16” (*):	50 kg

(*): 12” / 16”, 20” or 24” indicates the wheel size. This is indicated on the tyre. Please consult your dealer.

Component	Manufacturer	Model/Type	Connection	Type of connection	Tightening torque (Nm)
Saddle post	GID	fixed	Saddle clamp	One bolt	17-20
Saddle post	GHOST BMX CroMo	fixed	Saddle clamp	Two bolts	5-6
Saddle post	Ritchey	fixed	Saddle clamp	Two bolts	14-16
Saddle post	Syncros	fixed	Saddle clamp	Two bolts	14-16
Saddle post	GID	fixed	Saddle clamp	Two bolts	14-16
Saddle post	GID	spring suspension	Saddle clamp	Two bolts	5-6
Saddle post clamp to frame	All	aluminium frame	Saddle post clamp	One bolt	5-6
Saddle post clamp to frame	All	carbon frame	Saddle post clamp	One bolt	5-6

Table of tightening torques

4 Design and Function

4.1 Categories

We divide our bikes into the following categories. There are various series within these categories. The category and series to which your bike belongs can be found in your BIKE SERVICE CARD at the end of this user manual.

- Mountain bike (AMR, AMR Plus, AMR Square, ASX, ERT, FR Northshore, 4X, DIRT, RT, HTX, MISS, MISS AMR, MISS RT, SE)
- Cross bike (CROSS)
- Street (RACE, SPEEDLINE)
- Trekking bike (TR)
- Children's bikes (POWERKID)

You can find the category of your bike in the BIKE SERVICE CARD at the end of this user manual.

4.2 Mountain bike (AMR, AMR Plus, AMR Square, ASX, ERT, FR Northshore, 4X, DIRT, RT, HTX, MISS, MISS AMR, MISS RT, SE)

No equipment in accordance with StVZO, equipped with dérailleur, rim brakes or disc brakes, wheels with rim diameter 559mm / 26".

- AMR, ASX, Miss AMR Series:
  - Fullies (see chapter 4.7.2) with 120 mm spring travel front and rear. Equally easy to ride up and down hill.

- AMR Plus, AMR Square Series:
  - Fullies (see chapter 4.7.2) with 100 – 140 mm spring travel front and 140 mm spring travel rear. Easy to ride up and down hill. Greater importance is attached, however, to the downhill properties.

- ERT Series:
  - Fullies (see chapter 4.7.2) with 100 – 160 mm spring travel front and 160 mm spring travel rear. The main focus here is on the downhill properties, but is also suitable for uphill riding. CAUTION: Corresponding skill and experience are preconditions for the use of this sports bike!

- FR Northshore Series:
  - Fullies (see chapter 4.7.2) with 180 mm spring travel front and rear. The main focus here is on the suitability for downhill and bike park.

CAUTION: Corresponding skill and experience are preconditions for the use of this sports bike!

- 4X / DIRT Series:
  - Hardtails (see chapter 4.7.2) with 100 mm spring travel front. The main focus here is on the suitability for the bike park and for jumping.
  - Equipment as for mountain bike, but some models with only one brake, without gears or with gears only for the rear sprocket cassette.
    CAUTION: Corresponding skill and experience are preconditions for the use of this sports bike!

- RT, MISS RT Series:
  - Fullies (see chapter 4.7.2) with 100 mm spring travel front and rear. Bikes with weight-oriented configuration for the sporting rider.

- HTX / MISS Series:
  - Hardtails (see chapter 4.7.2) with 100 mm spring travel front. Bikes with weight-oriented configuration for the sporting rider.

- SE Series:
  - Hardtails (see chapter 4.7.2) with 80 - 100 mm spring travel front. Sturdy universal bikes for the tour-oriented leisure cyclist.

4.3 Cross bike (CROSS Series)

Equipment as for mountain bike, but wheels with larger rim diameter of 622 mm / 28”.

- CROSS Series:
  - Hardtails (see chapter 4.7.2) with 60 mm spring travel front. Universal bikes for speedy progress on streets and paths.

4.4 Street (RACE, SPEEDLINE Series)

No equipment in accordance with StVZO, equipped with dérailleur, rim brakes, wheels with rim diameter 662 mm / 28”.

- RACE Series:
  - Racing bikes without frame suspension, rigid forks and racing handlebars for rapid sporting progress on the street.
  - Racing bike brakes (see chapter 6.8.1)

- SPEEDLINE Series:
  - Bikes without frame suspension and rigid forks for rapid, comfortable progress on the road.
  - Straight or mountain bike-type handlebars
  - Gear shift lever as for mountain bikes
  - Rim brakes as for mountain bikes
  - Slightly wider tyres than for the RACE Series

4.5 Trekking bike (TR Series)

Equipment in accordance with StVZO, equipped with dérailleur, two rim or disc brakes, luggage rack, mudguards

- TR Series:
  - Hardtails (see chapter 4.7.2) with 60 mm spring travel front.
  - Universal, fully equipped bikes for comfortable progress on streets and paths.
  - Straight or mountain bike-type handlebars
  - Gear shift lever as for mountain bikes
  - Rim or disc brakes as for mountain bikes
  - Hub dynamo

4.6 Children's bikes (POWERKID Series)

No equipment in accordance with StVZO, equipped with derailleur or no gears, rim and/or back-pedal brakes.

- POWERKID 12" and 16":
  - Frame without suspension and rigid forks
  - No gears
  - Rim brakes front
  - Back-pedal brake rear
  - Stabilisers
  - Wheel size 12" or 16"
- POWERKID 20":
  - Very similar to a MTB
  - Hardtail (see chapter 4.7.2) with spring fork with up to 50 mm spring travel
  - Derailleur rear with 7 speeds
  - Rim brakes as for mountain bikes
  - Wheel size 20"
- POWERKID 24":
  - Corresponds to a MTB but with smaller wheel size
  - Hardtail (see chapter 4.7.2) with spring fork with up to 50 mm spring travel
  - Derailleur gear with 24 speeds

- Rim brakes as for mountain bikes
- Wheel size 24”

4.7 General information

4.7.1 Gears

On bikes with several gears a distinction is made between

- Derailleur gear, recognisable from the sprocket assembly on the rear wheel hub and a pedal assembly with several chainwheels, or
- Hub gear, recognisable from a “fat” rear wheel hub.

These gear assemblies provide you with the optimum gear for every speed and simplify, for example, the climbing of hills.

The number of gears is determined as follows:

- Derailleur gear: Number of chainwheels at the front multiplied by the number of sprockets at the rear, e.g.: 3 chainwheels x 9 sprockets = 27 gears.
- Hub gear: The number of gears corresponds to the highest number on the gear shift indicator.

4.7.2 Frames and forks

Bike frames are available in the following forms:

- Without suspension:
  With rigid fork and rigid frame
  - Model series RACE, SPEEDLINE, POWERKID 12” and 16”

- With half suspension (“hardtail”): With fork suspension and rigid frame

– Model series 4X, DIRT, MISS (except MISS AMR, MISS RT), HTX, SE, CROSS, TR, POWERKID 20” and 24”

- Full suspension:
  With fork suspension and rear wheel suspension
  – Model series AMR, AMR Plus, AMR Square, ASX, ERT, FR Northshore, RT, MISS RT, MISS AMR

For full suspension bikes there are various suspension systems with different numbers of pivot joints.

Four-pivot frame

The number of pivots can be easily counted. The connection to the spring element does not count as a pivot.

4.8 Notes on carbon materials

Danger of personal injury and material damage!

Carbon is a modern material in bike and motor vehicle construction. Carbon parts are, however, delicate and sensitive. Mistakes during assembly or use can result in fractures and hence in dangerous riding situations, falls, accidents and material damage.

- **Be sure to observe all the instructions on the use of carbon parts.**
- **If you have any questions about the use of carbon parts, please consult your dealer.**

Danger of personal injury and material damage!

Impact loads that can occur if using the bike for other than the approved purpose (see chapters 2.1.3 and 4) and collisions with flying stones can lead to invisible damage in the carbon fabric and/or to delaminations (= separation of the bonded carbon layers).

Such prior damage together with the forces occurring during operation can cause carbon parts to suddenly break and hence result in dangerous riding situations, falls, accidents and material damage.

- **Use your bike only for its intended purpose (see chapters 2.1.3 and 4)**
- **After accidents or other major mechanical loads not caused by normal bike operation, carbon frames and parts may no longer be used.**
- **After a fall or accident, immediately contact a dealer authorised by the manufacturer and have the parts concerned sent in to the manufacturer for inspection.**

Carbon is a colloquial expression for carbon fibre-reinforced plastics. This designates a fibre-plastic composite material in which the carbon fibres are embedded in several layers in a plastic matrix.

This matrix consists of thermosetting plastics (epoxy resin). The primary functions of the matrix material are to transmit and distribute the occurring forces and to fix the fibres.

As with all fibre composite materials, the tensile strength is significantly higher than the strength transverse to the fibre direction. The carbon fibres are therefore arranged in multiple directions in order to be able to meet all the occurring forces.

4.8.1 Information on the frame construction

Exact analyses and realistic simulations of the forces occurring in the frame have enabled the fibre orientations in the different areas, such as in the pedal bearings or at the control tube, to be designed more efficiently.

Our GHOST carbon frames are manufactured using the Tube2Tube process. This technique of which only a few manufacturers have a perfect command enables GHOST to employ the material efficiently exactly where it is needed, and to leave it away where it is not needed. In this process, individual prefabricated frame segments are joined together in turn until the frame has been completely assembled.

These high-end products are produced manually. Differences can therefore occur in the finish, but these are not grounds for complaint.

4.8.2 Proper handling of carbon parts

1. No additional parts may be attached to carbon tubes by means of clips, screws, clamps or by any other methods that exert mechanical loads on the carbon tube. The forces occurring can damage the carbon fabric.
2. Clamping on assembly stands:
   - Never clamp your bike at a carbon tube or carbon saddle post in the jaws of an assembly stand.
   - Use an aluminium saddle post with the same diameter and insert it into your frame as described in chapter 7.3.
   - You can then clamp your bike in the jaws of an assembly stand at this saddle post.
3. Take care when using shackle locks! Under certain circumstances these can damage your frame.
   - Ensure when using shackle locks that these only touch the corresponding carbon tube and do not exert any force on the tube.
4. Saddle clamping bracket / saddle post:
   - The maximum tightening torque of the saddle clamping bracket bolt is 6 Nm (minimum torque 5 Nm).
   - The saddle tube must not be reamed out or otherwise mechanically machined.
   - Saddle post and saddle tube must not be greased. Use only the carbon assembly paste supplied with the bike.

5. Bottle holders:

   - The thread sets are provided for the attachment of commercially available bottle holders. The maximum tightening torque of the screws for fastening the bottle holder to the frame is 4 Nm.

6. Roller training:

   - The use of roller trainers with rigid clamping is not permitted. The rigid clamping of the fork ends or quick-release axle exerts loads that differ significantly from those occurring during the permitted use for riding. This can result in damage to the bike frame.
   - Use on a loose roller without rigid clamping of the frame is permitted. CAUTION: This presupposes the necessary know-how!

7. Transport:

   - Take particular care when transporting bikes with carbon frames. As with our bikes with aluminium frames, they may only be transported inside motor vehicles.
   - Protect particularly the frame from contact with other parts. Use blankets or similar protective covers.
   - As with all our bikes, no rack systems or the like may be used that employ clamping elements for fixing and attachment. The clamping forces may cause damage to the tubes.
   - Do not place other objects on the frame.
   - Ensure that the bike cannot slip during transport.

5 Before Using for the First Time

Danger of personal injury and material damage!

A bike that is not completely ready for use can lead to dangerous riding situations, falls, accidents and material damage. The same hazards apply if you are not yet familiar with your new bike and its operation.

- **Familiarise yourself with your bike before riding for the first time.**
  In particular check which brake lever actuates the front brakes and which the rear brakes, see chapter 7.8.
- **Modern brakes have a very strong braking effect. Excessively powerful actuation of the brake lever can result in the respective wheel locking and leading to a fall or accident.**
  Familiarise yourself gradually with the braking effect of your bike on safe ground.
- **With new rim brakes and after replacement of the brake blocks, the full braking effect sets in only after a certain period of operation. Therefore anticipate longer braking distances for a certain time.**
- **Disc brakes first have to be run in. The full braking effects develops only after the running-in period. Observe the enclosed running-in instructions from the brake manufacturer.**
- **If your bike is equipped with optional clipless pedals that fix the shoe to the pedal:**
  Practice getting on and off your bike before use.
  Clipless pedals are not safety pedals; observe the instructions in chapter 7.10.
- **Should you remove saddle post and front and/or rear wheel for transport of your bike after purchase, observe the instructions in chapter 10.**

1. Have the correct final assembly and the inspection of the readiness for use of your bike confirmed by your dealer.
2. Have your dealer adjust the correct seating position for you.

You can carry out fine adjustments and minor modifications yourself as described in chapters 7.2 and 7.3.

3. Use your bike only when your dealer has instructed you and familiarised you with the technology of your bike.
4. Protect your bike with spray wax, see chapter 11.
5. Also observe chapter 6 before the first use.

6 Before Every Use

Danger of personal injury and material damage!

A bike that is not completely ready for use can lead to dangerous riding situations, falls, accidents and material damage.

Also consider the possibility that your bike may have fallen over or been manipulated by unknown persons while unsupervised.

- **Check that your bike is safe for use before every journey.**
- **Memorise the correct condition of your bike when new so that you can later more easily recognise any deviations from the correct condition (taking photographs can be a valuable aid here).**
- **Contact your dealer immediately if you discover that your bike is not in the proper condition.**
- **Ride your bike again only when it has been properly repaired by your dealer.**

The parts described below are not installed on all bikes. Some parts can also be installed later.

Check in chapter 4 and with the aid of the following illustrations which equipment your bike has. Carry out the corresponding checks.

If you are not sure about anything or have any questions, please contact your dealer.

1. Carry out a visual inspection of the whole bike.
   - Check all mounting screws / bolts for proper tightness (see chapter 1.2.4).
   - Inspect the whole bike for dents, cracks, deep scratches or other mechanical damage.

   Contact your dealer if the visual inspection reveals faults of any kind.

6.1 Inspect the wheels

Inspect the front and rear wheels.

A wheel consists of:

- Hub
- Only on the rear wheel hub: Sprocket or sprocket assembly

- Brake disc, if installed
- Spokes / nipple
- Rim and
- Tyre, which in turn consists of
  - Tyre,
  - Inner tube and
  - Rim tape

Some bikes are equipped with tubeless wheels. In this case tyres without inner tubes are fitted to special rims. An inner tube can, however, also be installed.

On bikes with StVZO approval, rim reflectors may also be installed.

6.1.1 Check the installation

1. Shake both wheels strongly at right angles to the running direction.
   - The wheels must not move in their mounting.
   - The quick-release lever must be closed (see chapter 7.9).
   - No cracking or grinding noises should be heard.

   Contact your dealer if the inspection reveals faults of any kind.

6.1.2 Check the wheel rims

Danger of personal injury and material damage!

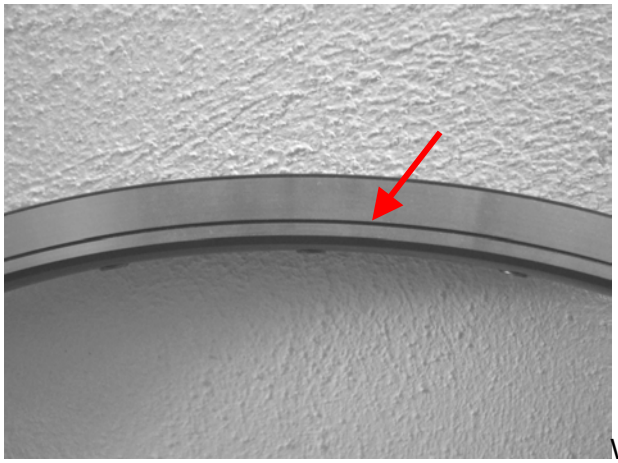
Worn rims and/or extreme wobble can lead to dangerous riding situations, falls, accidents and material damage.

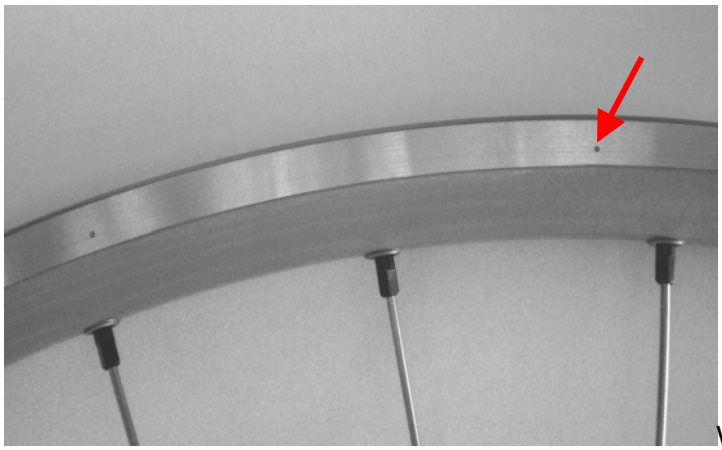
- **Worn rims must be replaced, wobble repaired!**

Danger of personal injury and material damage!

With rim brakes: Soiled rims can impair the braking effect.

- **Soiled rims must be cleaned immediately (see chapter 11).**


Wear indicator


Wear indicator

Wear indicator

1. Check the rims for wear:

- Rims with wear indicators:
  - Visual inspection
- Rims without wear indicators:
  - Visual inspection
  - Finger nail test: Run your finger nail across the rim flank. You should not feel scratches or scores.
- If the wear indicator is no longer visible or the rims exhibit visible scratches or scores that can be felt with your finger nail, the rim must be replaced.

2. Check the rims for wobble:

- Pick up the bike and rotate the front and rear wheel in turn.
- Pay attention to the clearance between rim and brake blocks, on bikes with disc brakes to the distance between rim and frame strut or fork blade.
  The maximum permissible deviation per revolution is 2 mm.

3. Inspect the rims for soiling, in particular for oil or grease.
   Soiled rims must be cleaned immediately (see chapter 11).

6.1.3 Check the tyres

1. Check the valve position:

Does not apply to tubeless tyres.

Danger of personal injury and material damage!

If the valves are crooked, the valve foot may tear off while riding resulting in a sudden loss of pressure in the tyre. This can lead to dangerous riding situations, falls, accidents and material damage.

- **Have the positioning of the tyre on the rim corrected by your dealer. You can carry out this work yourself if you are familiar with the removal and installation of the wheels (see chapter 10.1) and the replacement of tyres and tubes.**

- If necessary, remove the valve nut.
- Check the valve position:
  The valves must be pointing towards the middle of the wheel.

Valve pointing towards the middle of the wheel

Valve <u>not</u> pointing towards the middle of the wheel

2. Check the tyre pressure:

   Identify the type of tyres on your bike

Mountain bikes may be fitted with racing bike-type tyres,
racing bikes with trekking tyres.

Rule of thumb:

Mountain bike tyres: Tyre width more than 40 mm

Trekking / cross and fitness bike tyres: Tyre width from 28 mm – 40 mm

Racing bike-type tyres: Tyre width less than 28 mm

Contact your dealer if you are not sure which type of tyres is installed on your bike.

Indicative values for the tyre pressure:

- For mountain bike tyres: 2.5 – 3.5 bar
- For trekking and city bike tyres: 3.5 – 5.0 bar
- For racing bike tyres: 6.0 – 10.0 bar
- For the right pressure for categories not listed here, please refer to the pressure shown on the tyre or consult your dealer.

Danger of personal injury and material damage!

Insufficient tyre pressure can lead to an increase risk of accidents or tyre damage, and in particular to dangerous handling behaviour. The tyre may come off the rim in a curve; insufficient pressure also enhances the wandering of the tyre on the rim. This can lead to dangerous riding situations, falls, accidents and material damage.

- **Keep your tyres inflated to the prescribed pressure at all times.**

Some tyre pressures are indicated in “psi”.
Convert the tyre pressure into bar using the following table.

psi	30	40	50	60	70	80	90	100	110	120	130	140
bar	2.1	2.8	3.5	4.1	4.8	5.5	6.2	6.9	7.6	8.3	9.0	9.7

Refer to the rim or tyre manufacturer’s specifications for the admissible tyre pressure. The admissible tyre pressure is generally shown on the tyre flank. Please consult your dealer.

The higher your body weight, the higher the tyre inflation pressure has to be.

- Check the tyre pressure using a tyre pressure gauge. Simple gauges are often supplied with bike tyre inner tubes, higher quality gauges are available from specialist dealers. For details of use, please refer either to the instruction manual supplied with the gauge, or consult your local dealer.
- If the pressure is too low: Increase the inflation pressure using a suitable pump.
- If the pressure is too high: Release the necessary amount of air via the valve, then check the inflation pressure again.

A bike pump with pressure gauge allows you to check the inflation pressure while inflating. First allow a little air to escape from the tyre, then inflate to the required value.

There are different valve types. All valves can be fitted with a dust cap. In the case of a Schraeder (Auto) valve or Dunlop valve, the pump head can be connected directly after removing the cap. In the case of a Sclaverand (French) valve you first have to loosen the small lock nut on the valve as far as it will go, then tighten it again completely after inflating the tyre. Have the use of the valves explained to you by your dealer.

Schraeder (Auto) valve

Dunlop valve

Sclaverand (French) valve

3. Inspect your tyres for visible signs of damage and wear:
   - The tyre rubber must have its original profile over its whole surface.
   - The tyre fabric under the rubber layer must not be visible.
   - There must be no visible blisters or cracks.
4. Check the proper fitting of your tyres:
   - Raise the front and rear wheels alternately and turn the wheel by hand.
   - The tyre must run smoothly. There must be no wobble or eccentricity.

6.1.4 Check other points

1. Inspect your wheels for loose parts such as twigs, fabric residues, loose spoke reflectors, etc.

   If any loose parts are discovered:
   - Remove these if this is possible without great force.
   - Check whether the wheels have been damaged by these loose parts.
   - Secure loose bike parts such as spoke reflectors again. If this is not possible, contact your dealer immediately.
   - Check that all reflectors required in accordance with StVZO (see chapter 2.1.4) are fitted, correctly secured and not concealed or soiled.

6.2 Inspect the saddle and saddle post

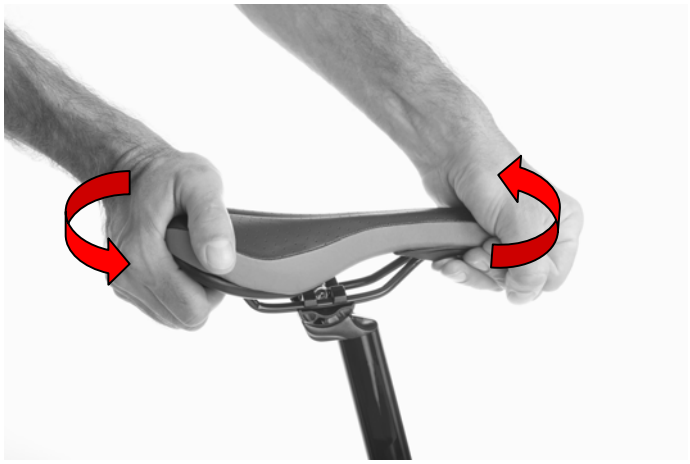
Danger of personal injury and material damage!

If the insertion depth is too short, the saddle post can come loose. This can lead to dangerous riding situations, falls, accidents and material damage.

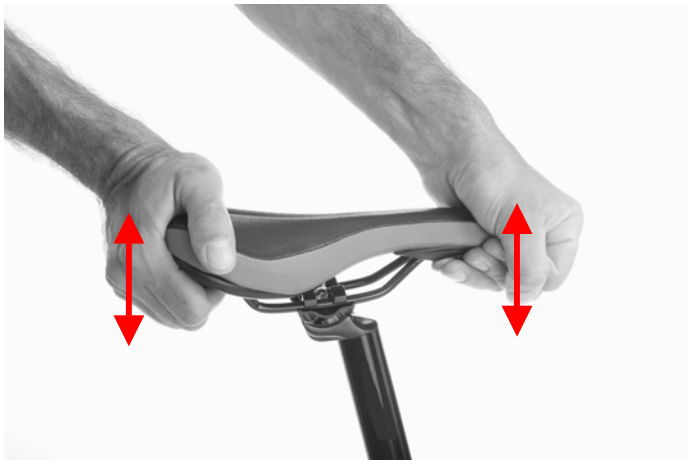
- **Pay attention to the correct insertion depth of the saddle post. Observe the instructions in chapter 7.3.**

If you have the necessary technical know-how, you can carry out this attachment yourself.
Observe the instructions in chapters 7.2, 7.3 and 10.2.

1. Check that the saddle and saddle post are securely fastened:
   - Try to twist the saddle and post in the frame by hand.
     It must not be possible to twist the saddle and saddle post.



   - Try to move the saddle in its clamp with your hand by alternately pushing down and pulling up.
     The saddle must not move.



- If saddle and/or saddle post do move,
  tighten the respective bolt(s) securely (see chapters 7.2, 7.3 and 10.2).

6.3 Inspect the handlebars and handlebar stem

Danger of personal injury and material damage!

Handlebars and handlebar stem are very important components for your safety. Damage to these parts and/or errors in installation can result in very serious accidents.

- **If you discover damage to these parts or have any doubt about their integrity, you must not use your bike again.**
- **Contact an approved workshop immediately.**

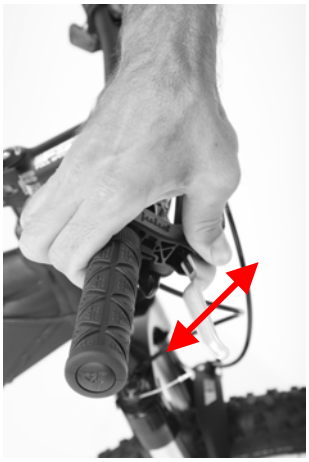
1. Check the installation of handlebars and handlebar stem.
   - The handlebar stem must be parallel to the front wheel rim,
   - the handlebars at right angles to the stem.
   - In the case of a shaft handlebar stem, the “Max.”, “Stop” or equivalent mark must not be visible.
   - Clamp the front wheel between your legs.
   - Grip the handlebars at both ends.
   - Try to twist the handlebars in both directions with your hands.
   - Try to twist the handlebars in the handlebar stem with your hands.

- It must not be possible to move or twist any of the parts.
- No cracking or grinding noises should be heard.

6.4 Inspect the handlebar attachments

1. Check the secure attachment of the gear shift levers, brake levers and handlebar grips. A triathlon handlebar attachment and/or bar ends (“horns”) may have been installed on your handlebars if these are permitted by the manufacturer. Inspect these parts for proper attachment.

   - Clamp the front wheel between your legs.
   - Try to twist the brake levers with your hands.



Triathlon handlebar attachment

- Try to twist the gear shift levers with your hands.
- Try to twist the triathlon handlebar attachment with your hands.
- Try to pull the handlebar grips and the bar ends from the handlebars.
- If bar ends are correctly installed, the handlebar grip test can be waived.
- It must not be possible to move or twist any of the parts.
- No cracking or grinding noises should be heard.
- A bell (if installed) must be easily reached with finger or thumb; it must not be possible to move the bell.

6.5 Inspect the headset

The headset is the mounting of the handlebar stem in the fork column.

1. Check your headset. It must be possible to steer the front wheel easily in both directions without backlash:

- Stand alongside your bike and hold the handlebar grips with both hands.
- Apply the front wheel brake and keep the brake applied.
- Push your bike forward and back with short, jerky movements.
- The headset must not exhibit any backlash. No cracking must be heard or felt. Grinding noises are also not permitted.
- Pick up the whole bike so that the rear wheel is higher than the front wheel.

- Turn the front wheel to the side by means of a handlebar movement and release it again.

- The front wheel must now move back independently into its original position.
- The front wheel must not lock in any position.

6.6 Inspect the spring fork

1. Check your spring fork:
   - Apply the front wheel brake and keep the brake applied.
   - Press with your body weight onto the handlebars so that the spring fork is compressed.
   - The fork must move easily up and down.
   - No cracking or grinding noises should be heard.
   - (refer also to the component manufacturer's operating instructions)

6.7 Inspect the rear wheel suspension

1. Check your rear wheel suspension:
   - Sit on the saddle and alternately compress and relieve the suspension by short up and down movements.
   - The rear end of the bike must move easily up and down.
   - No cracking or grinding noises should be heard.
   - (refer also to the component manufacturer's operating instructions)

6.8 Inspect the brakes

Danger of personal injury and material damage!

A brake malfunction is a serious danger to safety.

- **Pay particular attention when checking the brake system.**

During prolonged tours over several days the brake disc, brake blocks and brake pads can become severely worn.

Always take replacement brake blocks and replacement brake pads with you on such tours.

Carry out the replacement yourself only if you are familiar with this work. Please consult your dealer.

If you are not familiar with this replacement, have the work carried out in an approved workshop.

1. Check the proper function of your brake system.
   - Pull on both brake levers completely with the bike at a standstill.
   - Note that in this position the minimum distance between the brake lever and handlebar grip must still be at least 35 mm.

- Try to push the bike with both brakes applied.
  Both wheels must remain locked.

6.8.1 Check the rim brake with cable (racing bike version)

Racing bike rim brake

1. Check the brake cables and their clamps.
   - The brake cables must not be damaged or corroded.
   - The brake cables of cable brakes must be clamped over their full width.

2. Check the correct mounting and bolts of the whole brake system:

   - Try to pull the brakes from the fork (front) or frame (rear) with your hands.

   - The brakes must remain securely attached and the mountings must not exhibit any clearance.

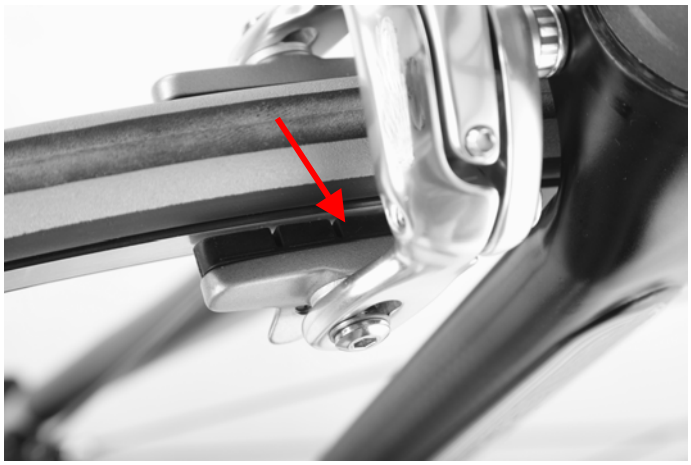
3. Check the position of the brake shoes.

   - When the brakes are applied, the brake shoes must contact the rim flank with practically their whole surface area.

- In no position, i.e. even when the brakes are not applied, may the brake shoes touch the tyres.

4. Check the wear of the brake blocks.

- The brake blocks must not be worn beyond the wear indicator.

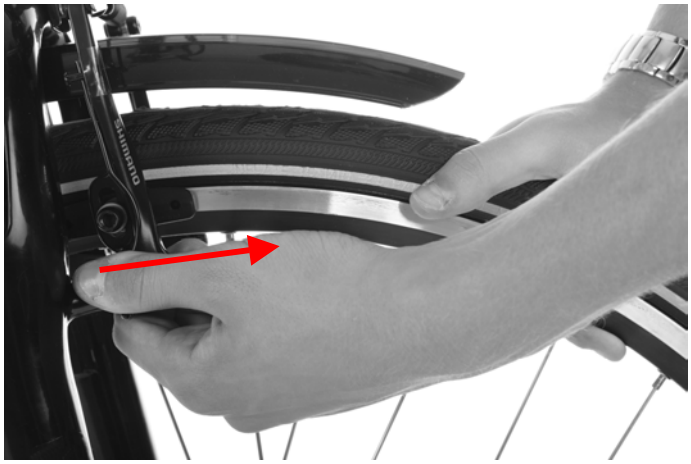


5. Check that the brakes are centered:
   The brake shoes must have the same distance to the rim on both sides.

6.8.2 Check the rim brake with cable (MTB version)

1. Check the brake cables and their clamps:
   - The brake cables must not be damaged or corroded.
   - The brake cables of cable brakes must be clamped over their full width.

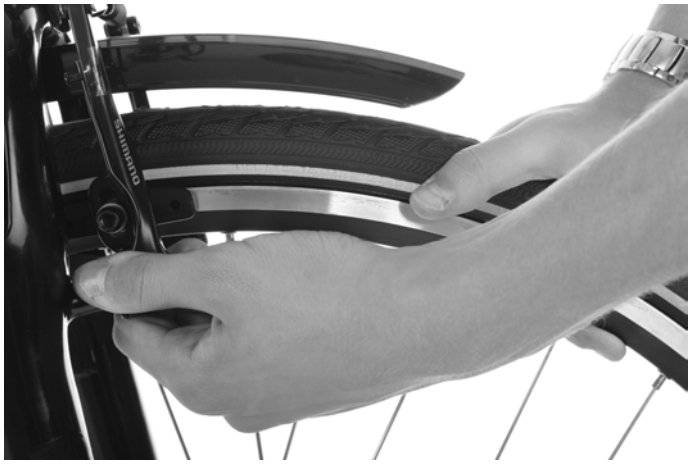
2. Check the correct mounting and bolts of the whole brake system:
   - Try to pull the brakes out of the shoes with your hands.



- It must not be possible to pull the brakes blocks out of the shoes by hand. A slight backlash is normal.

3. Check the position of the brake shoes.

- When the brakes are applied, the brake shoes must contact the rim flank with practically their whole surface area.



- In no position, i.e. even when the brakes are not applied, may the brake shoes touch the tyres.

4. Check the wear of the brake blocks.

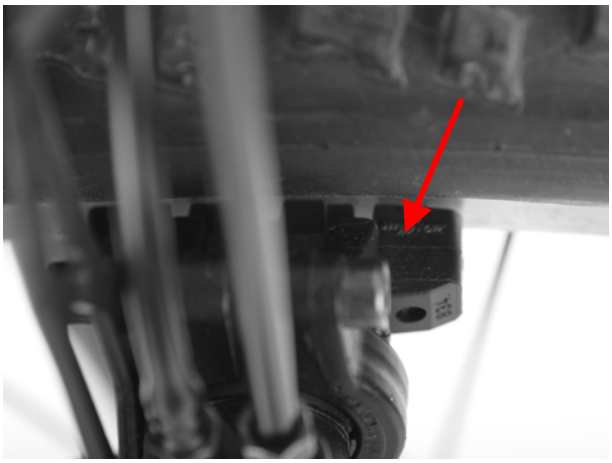
- Unhook the brakes for the inspection (see chapter 10.1).
- The brake blocks must not be worn beyond the wear indicator.

5. Check that the brakes are centered:
   - The brake shoes must have the same distance to the rim on both sides.

6.8.3 Check the hydraulic rim brakes

1. Check the correct mounting and bolts of the whole brake system:
   - Try to pull the brakes out of the shoes with your hands.
   - It must not be possible to pull the brakes blocks out of the shoes by hand. A slight backlash is normal.
2. Check your brake system for leaks:
   - Pull the respective brake lever with the bike at a standstill and hold the brake lever in this position.
   - Inspect the brake system from the brake lever along the lines up to the brakes.
   - No hydraulic fluid should escape at any point.

3. Check the position of the brake shoes:
   - When the brakes are applied, the brake shoes must contact the rim flank with practically their whole surface area.
   - In no position, i.e. even when the brakes are not applied, may the brake shoes touch the tyres.
4. Check the wear of the brake blocks:
   - The brake blocks must not be worn beyond the wear indicator.



5. Check that the brakes are centered:
   - The brake shoes must have the same distance to the rim on both sides.

6.8.4 Check the hydraulic disc brake

Danger of personal injury and material damage!

Soiled brake discs can impair the braking effect.

- **Soiled brake discs must be cleaned immediately**

1. Pull the brake calliper alternately in all directions with your hands.
   - The brake calliper must not move.
2. Check your brake system for leaks:
   - Pull the respective brake lever with the bike at a standstill and hold the brake lever in this position.
   - Inspect the brake system from the brake lever along the lines up to the brakes.
   - No hydraulic fluid should escape at any point.
3. Inspect the brake disc for damage:
   - It must not exhibit any dents, cracks, deep scratches or other mechanical damage.
4. Raise the front and rear wheels alternately and turn the wheel by hand:
   - The brake disc may only have a minimal lateral runout.
5. Have the wear of the brake pads and brake disc checked in an approved workshop (see also chapter 11):
   - The brake pads must not be worn beyond the wear indicator.
   - The thickness of the brake disc must not be below the specified minimum.
   - For the minimum thickness, please refer to the enclosed component instruction manual.
6. Inspect the brake discs for soiling, in particular for oil or grease.
   - Soiled brake discs must be cleaned immediately (see chapter 11).

During prolonged tours over several days the brake disc, brake blocks and brake pads can become severely worn.

Always take replacement brake blocks and replacement brake pads with you on such tours.

Carry out the replacement yourself only if you are familiar with this work. Please consult your dealer.

If you are not familiar with this replacement, have the work carried out in an approved workshop.

6.8.5 Check the back-pedal brake

1. Ride at walking pace
2. Pedal “backwards” against the driving direction.
3. The rear wheel must be sharply braked.

6.9 Inspect the drive and chain

1. Turn the right-hand pedal arm in anti-clockwise direction and observe the chainwheels and the sprocket assembly from above.
   - The chainwheels and sprockets must not have any lateral runout.
   - There must not be any foreign matter in any of the components. Remove any such foreign matter, if easily possible.
2. Press the left-hand pedal arm towards the chain run in the position shown.

   - You should not feel any bearing backlash.
   - No cracking or grinding noises should be heard.
3. Inspect the chain for damage:
   - The chain must not be damaged at any point, e.g. by bent chain links, protruding chain link pins, etc. or jammed and immobile chain links.

4. With the bike at standstill, turn the right-hand pedal lever contrary to the drive direction and observe the chain run at the derailleur rollers of the rear derailleur.
5. The chain must run smoothly over the derailleur rollers and must not jump.

6.10 Inspect the lighting system

Danger of personal injury and material damage!

Failure of the headlight and rear light can lead to dangerous riding situations in the dark or with poor visibility.

- **Use your bike in such visibility situations only when the lighting system is fully functional.**

1. Check the proper function of your lighting system:
   - If installed, check the ON/OFF switch on the headlight.
   - Lift the front wheel.
   - Rotate the front wheel vigorously by hand.
   - The headlight and rear light must come on.
   - If installed, check the function of the rear parking light.

6.11 Inspect the luggage rack

Danger of personal injury and material damage!

Loose or hanging parts of the luggage rack can jam the wheel and result in serious falls or accidents.

- **Use your bike again only when the luggage rack has been properly secured in an approved workshop.**

1. Shake the luggage rack at right angles to the direction of travel with your hands. The luggage rack mountings must not come loose. The luggage rack must not touch the tyres.
2. Observe the maximum load (see chapter 7.11).

6.12 Inspect the mudguards

Danger of personal injury and material damage!

Loose or hanging parts of the mudguards can jam the wheels and result in serious falls or accidents.

Use your bike again only when the luggage rack has been properly secured in an approved workshop.

1. Check the mounting of your mudguards.
   - The mudguard and its mounting struts must not be bent or damaged.
   - Move the front wheel sharply to left and right using the handlebars with the bike at standstill.
   - Tilt the whole bike back and forth several times at right angles to the direction of travel.
   - The mudguard mounting struts must not come loose.
   - No part of the mudguards may touch the wheels.

6.13 Check other points

Danger of personal injury and material damage!

A side stand can lead to serious falls when riding if folded down.

- **Always fold up the side stand before riding.**

1. Check your side stand, if installed.
   - Carry out a visual inspection of the mounting bolt. The side stand must be securely attached to the frame.
   - Always fold up the side stand before riding. The stand must remain in this position even in the event of vibrations.

Danger of personal injury and material damage!

Incorrectly mounted or loose accessories can impair your riding safety.

- **Check all accessories not expressly mentioned here for correct mounting.**

1. Check any accessories installed later by your dealer.
   - Carry out a visual inspection of the mounting bolts.
   - Try to twist or move the accessories with your hands.
   - Tilt the whole bike back and forth several times at right angles to the direction of travel.
   - The accessories must not slip, twist or come loose.
   - No part of the accessories may touch the wheels.

Danger of personal injury and material damage!

Damaged bike parts can have sharp edges that could cause injuries.

- **Check all parts of the bike with which you could come into contact while riding.**
- **Have any damaged parts repaired or replaced immediately in an approved workshop.**

7 Adjusting and Operating the Bike

The parts described below are not installed on all bikes.

Check in chapter 4 and with the aid of the following illustrations which equipment and operating elements your bike has.

If you are not sure about anything or have any questions, please contact your dealer.

You may carry out certain adjustments on your bike yourself. Carry out this work only when you have the necessary basic technical knowledge, experience and appropriate tools.

7.1 Adjust the adjustable handlebar stem (option)

Some bikes are equipped with a handlebar stem that is adjustable in height and angle. Have the adjustment carried out only in an approved workshop!

7.2 Adjust the saddle position

You saddle is secured with one or two clamping bolts.

For adjustment you need an Allen key and a torque wrench of the appropriate size.

1. Adjusting the horizontal position or angle of your saddle:
   - Loosen the clamping bolt(s) by a few turns until the saddle can be moved easily and/or the angle can be easily adjusted.

Move the saddle to the desired position.

- For saddle clamps with one bolt: Tighten the clamping bolt to the prescribed torque again. Ensure that all loosened parts engage with one another again correctly.
- For saddle clamps with two bolts: Turn the bolts alternately by a quarter to half a turn until the prescribed torque is reached.
- For details of the prescribed tightening torque, please refer to the table in chapter 3.2.
- Different tightening torques may be specified for some saddle posts. If these are not listed in the table or directly on the saddle post, please contact your dealer.

7.3 Adjust the saddle height

Danger of personal injury and material damage!

With children, and particularly those who do not yet have a complete command of bike riding, adjustment of the saddle too high can can lead to dangerous riding situations, falls, accidents and material damage.

- **Adjust the saddle height such that the child can touch the ground with both feet when sitting on the saddle. Observe also the instructions in chapter 10.2.**

For a saddle clamp with bolt you need an Allen key and a torque wrench of the appropriate size for the saddle adjustment.

For a saddle clamp with quick-release lever, observe the instructions in chapter 7.9.

1. Loosen the clamp as described in chapter 10.2.
2. Move the saddle with saddle post to the desired position. Observe the information on the insertion depth of the saddle post in chapter 10.2.
3. Clamp the saddle post as described in chapter 10.2.

7.4 Adjust the spring fork

1. For details of adjusting the spring fork, please refer to the component user manual from the spring fork manufacturer supplied with the bike.

Lockout

2. If your fork has a locking mechanism as shown in the figure, please refer to the component user manual from the spring fork manufacturer supplied with the bike for details of operation.

Spring forks with elastomer and/or steel springs are suitable only for one total weight range (= weight of rider + any luggage). This weight range normally lies within 20 kg.

Only the preload on the fork can be adjusted by compressing the springs using adjusting screws. This merely alters the breakaway torque of the fork, i.e. with a higher preload the fork is compressed only under higher working loads.

If the fork preload is set too high, the spring travel is shortened correspondingly.

For details of the weight range of the spring elements in your spring fork, please refer to the user manual from the spring fork manufacturer supplied with the bike and/or contact your dealer.

If your total weight is outside this range, have the appropriate spring elements for your weight installed by your dealer.

7.5 Adjust the rear wheel suspension

(with full-suspension bikes – “Fullies”)

1. For details of adjusting the spring/damper element, please refer to the component user manual from the manufacturer supplied with the bike. Please consult your dealer.
2. Adjust your spring/damper element so that the bike drops equally at the front and rear wheel when loaded with the rider’s weight (see also the enclosed damper pressure recommendations).

7.6 Operating the gear shift

1. Please identify the gear shift system installed on your bike using the figures. If you are not sure about the type, please consult your dealer.
2. If your gear shift lever is not illustrated in the figures, please consult the component user manual from the shift lever manufacturer supplied with the bike and/or contact your dealer.

Shimano Dual Control

Shimano Rapidfire 2-way release

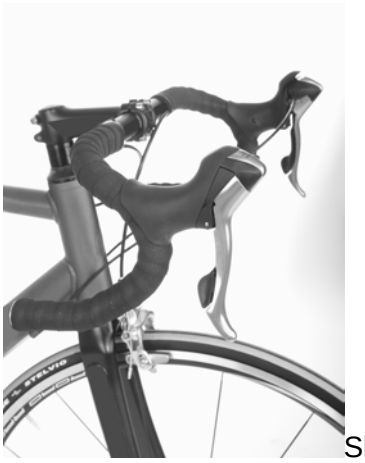
Shimano Rapidfire 2-way release

Shimano EZ Fire

Shimano Rapidfire

Shimano Rapidfire

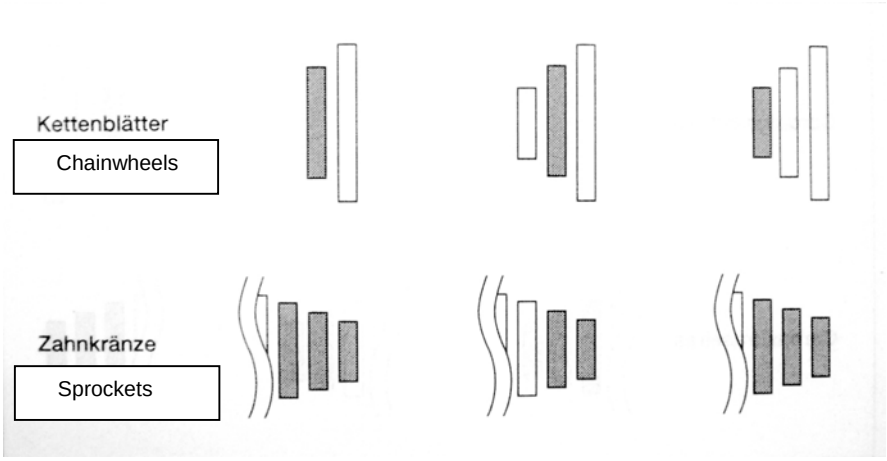
Twist grip switch



Shimano STI


Sram Force / Rival / Red

With a derailleur gear system the gears are changed by shifting the chain to another sprocket. At the pedal cranks these sprockets are referred to as “chainwheels”, at the sprocket assembly “pinions”.



- The combinations shown in grey result in increased noise development and material wear and should generally be avoided.
- Avoid: Largest chainwheel + largest pinion
- Smallest chainwheel + smallest pinion

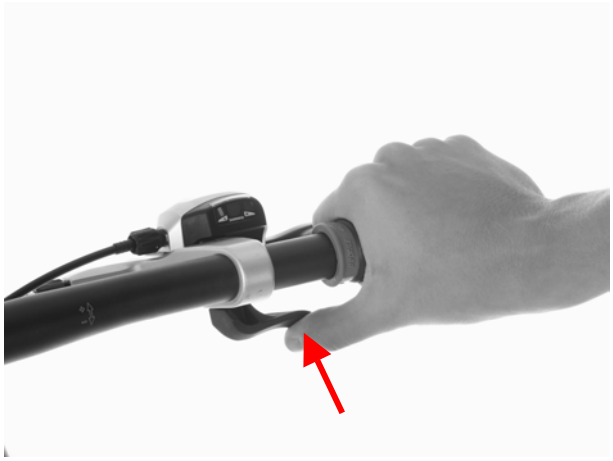
The left-hand lever is used to operate the front derailleur, the right-hand lever to operate the rear derailleur.

Danger of material damage!

Incorrect operation of the gear shift levers can damage your drive components.

Never operate both shift levers or both switches at the same time!

Applies to switches on the crank assembly (left-hand switch) and hub gear: Never change gear under load!



7.6.1 Shimano Rapidfire/ Shimano Rapidfire 2-Way Release/Shimano EZ Fire

Your gear shift has two levers. Lever A is used to shift to a larger chainwheel or pinion, lever B to a smaller chainwheel or pinion.

Lever A

Lever B

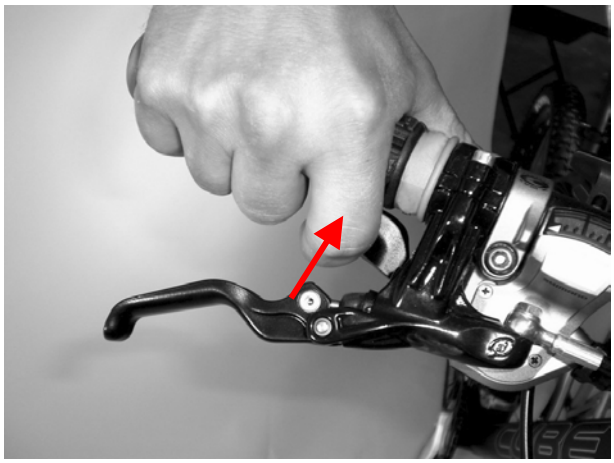
1. Shifting to a larger sprocket:

   - You must pedal while shifting.
   - Press the lever with your thumb beyond the first locking step and hold it pressed until the desired gear is engaged.

   - For faster shifting over several sprockets, press the lever completely forward and hold it pressed until the desired gear is engaged.

2. Shifting to a smaller sprocket:

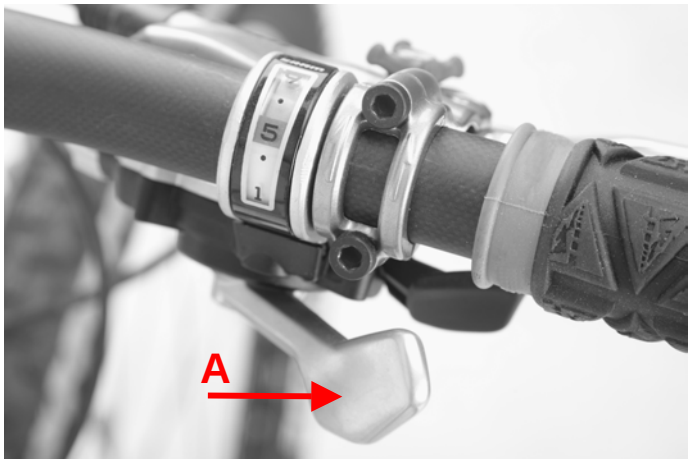
   - You must pedal while shifting.
   - Press (only with 2-way release) or pull lever B until you feel an engagement and then release the lever again immediately.



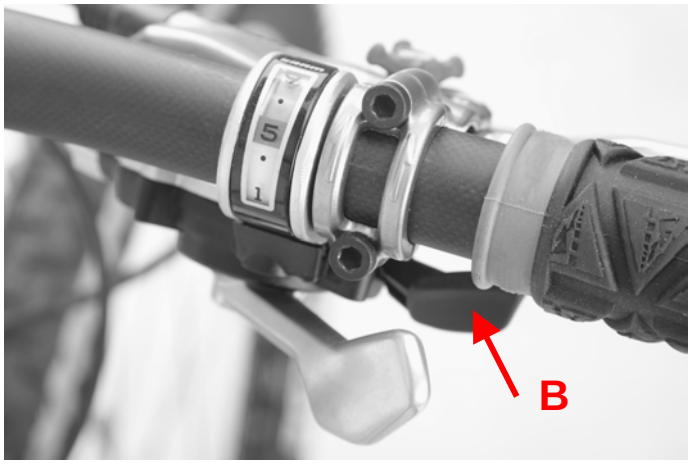
7.6.2 Sram MTB

Your gear shift has two levers. Lever A is used to shift to a larger chainwheel or pinion, lever B to a smaller chainwheel or pinion.

1. Shifting to a larger sprocket:
   - You must pedal while shifting.
   - Press the lever with your thumb beyond the first locking step and hold it pressed until the desired gear is engaged.



   - For faster shifting over several sprockets, press the lever completely forward and hold it pressed until the desired gear is engaged.
2. Shifting to a smaller sprocket:
   - You must pedal while shifting.
   - Press lever B until you feel an engagement and then release the lever again immediately.



7.6.3 Twist grip switch

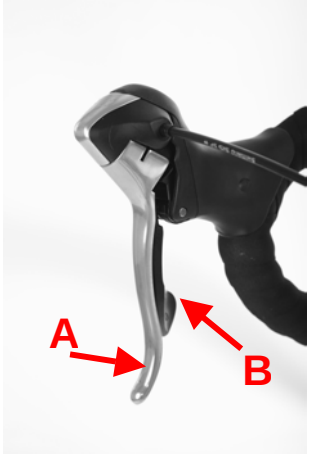
Your switch grip has a ring that can be rotated in both directions. You shift to the next gear by rotating this ring. Depending on the manufacturer, twisting in the same direction may select a higher or lower gear. For details of the exact function, please consult the component user manual supplied with the bike and/or contact your dealer.

1. Shifting with a hub gear:
   - Do not pedal while shifting.
   - Turn the ring in the desired direction until the gear is engaged.
2. Shifting to a larger sprocket with a dérailleur:
   - You must pedal while shifting.
   - Turn the shift ring until the desired gear is engaged.
   - For faster shifting over several sprockets, turn the shift ring until the desired gear is engaged.
3. Shifting to a smaller sprocket:

- You must pedal while shifting.
- Turn the shift ring until the desired gear is engaged.
- For faster shifting over several sprockets, turn the shift ring until the desired gear is engaged.

7.6.4 Shimano STI (on RACE Series only)

Your gear shift has two levers. Lever A – this is also the brake lever – is used to shift to a larger chainwheel or pinion, lever B to a smaller chainwheel or pinion.



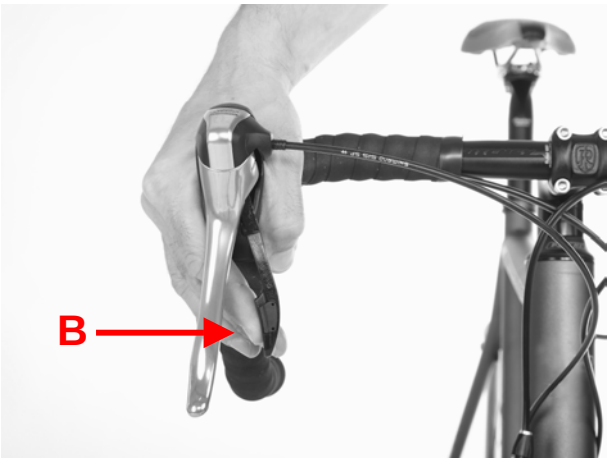
1. Shifting to a larger sprocket:

   - You must pedal while shifting.
   - Press lever A beyond the first locking step and hold it pressed until the desired gear is engaged.

   - For faster shifting over several sprockets, press lever A completely forward and hold it pressed until the desired gear is engaged.

2. Shifting to a smaller sprocket:

- You must pedal while shifting.
- Press lever B until you feel an engagement and then release the lever again immediately.



7.6.5 Sram Force / Rival / Red (on RACE Series only)

Your shift/brake lever has a lever with which you can shift to both a higher and a lower gear.

This can be pressed inwards for shifting.

1. Shifting to a larger sprocket:

- You must pedal while shifting.
- Press the shift lever inwards and hold it pressed until the desired gear is engaged.
- For faster shifting over several sprockets, press the lever completely inwards and hold it pressed until the desired gear is engaged.

2. Shifting to a smaller sprocket:

   - You must pedal while shifting.
   - Press the lever until you feel an engagement and then release the lever again immediately.

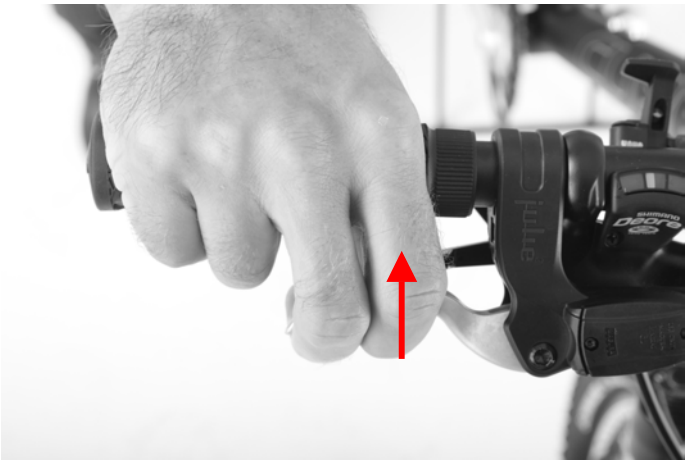
7.7 Using the brakes

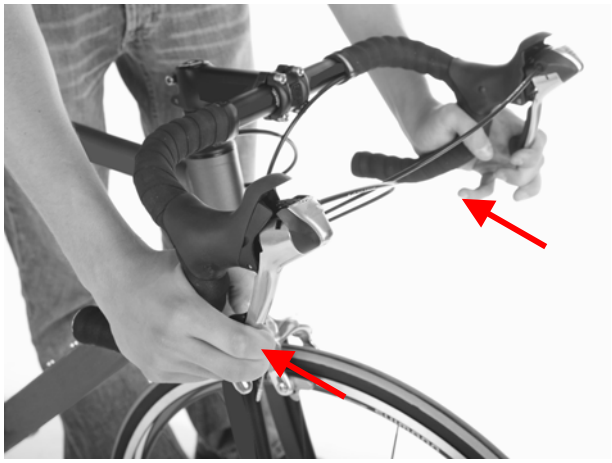
Danger of personal injury and material damage!

Incorrect use of the brakes can lead to dangerous riding situations, falls, accidents and material damage.

- **Familiarise yourself with the use of the brakes.**
- **Find out which brake lever actuates the front wheel brake and which the rear wheel brake.**
- **To do this, press the respective brake lever several times while at standstill.**
  You can observe the opening and closing of the brake blocks or brake pads on the corresponding brake disc or wheel rim.

1. Pull the lever towards the handlebar to actuate the brake.





The best braking effect is achieved by correctly dosing the actuation of both brake levers at the same time.

7.8 Operating the quick-release hub axle

Danger of personal injury and material damage!

Incorrect installation of the wheels using the quick-release hub axle can lead to dangerous riding situations, falls, accidents and material damage.

- **Observe the following description for operation of the quick-release hub axle**
- **Familiarise yourself with the use of the quick-release hub axle**
- **Practice the installation and removal of the wheels with the quick-release hub axle several times**
- **Inspect the wheels as described in chapter 6.1.1 after every installation**
- **If you are not sure about the correct fitting after installation of the wheels, do not use the bike and contact your dealer.**

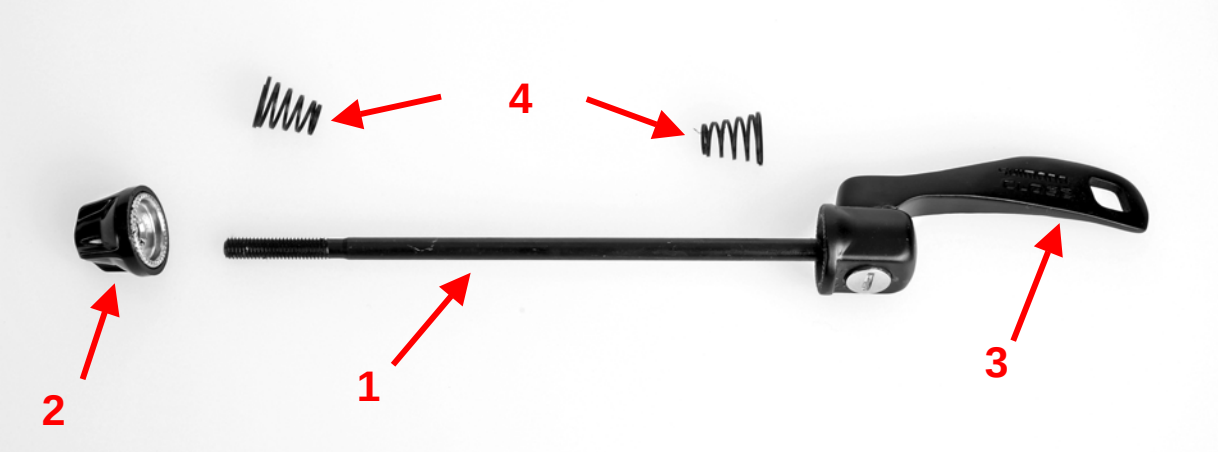
Risk of burns!

The quick-release levers on disc brakes can become hot while riding.

Touch the quick-release lever briefly with your bare finger.
If it feels hot, allow it to cool down.

Special forms:

Some wheels are attached with slide-in shafts or with a combination of slide-in shaft and quick-release lever. For details of their use, please refer to the user manual from the component manufacturer supplied with the bike.



Legend:
1: Axle
2: Screw nut
3: Lever
4: Spring

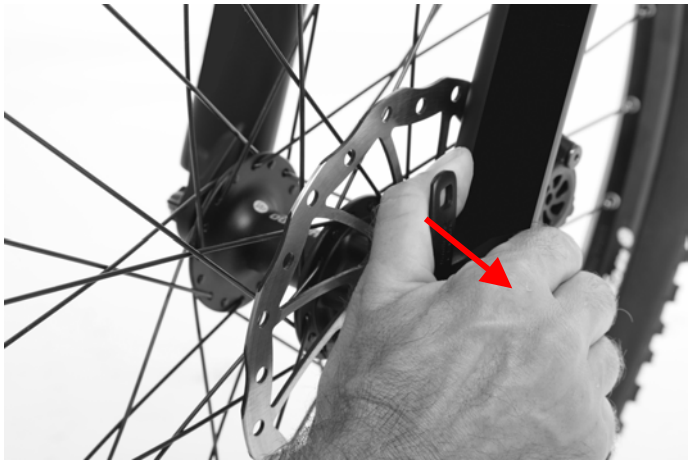
The hubs of your wheels and possibly also the clamp of your saddle post are fitted with quick-release axles (often also referred to as “quick-release levers”).

These quick-release axles permit quick removal and installation of these components without the use of tools. This is effected by means of a

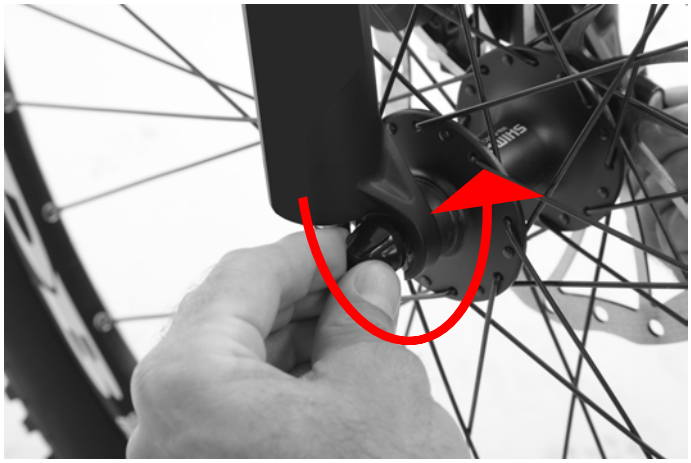
- Long axle with thread, on the one end fitted with a
- screw nut, at the other end an
- eccentrically pivoted lever.
- There is a small spring between the screw nut and the hub, and between the lever and the hub.
- The ends of the springs with the smaller diameter face towards the hub in each case.
- On quick-release levers for saddle post clamping, the axle end may have a bolt head with hexagonal socket instead of the nut.

Opening the quick-release axle:

1. Press the eccentrically pivoted lever away from the hub. It can now be turned by approx. 180° about its own axis.



2. Turn the screw nut in anti-clockwise direction until the wheel can be pulled out of the frame or front forks without great effort. Should the nuts come off the screw completely, ensure that the small springs are not lost.

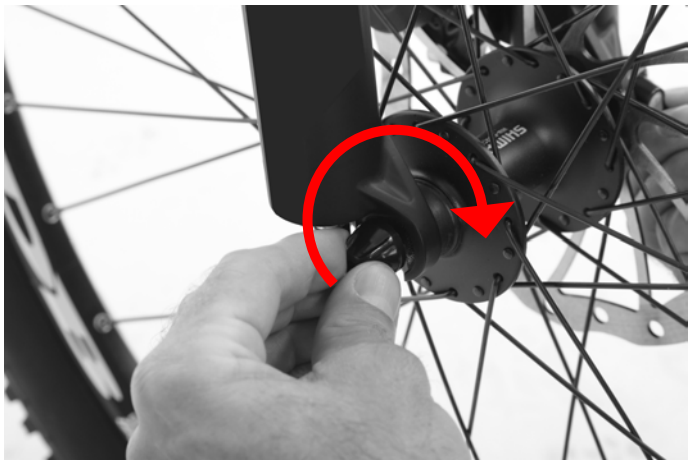


3. In the case of quick-release levers for saddle post clamping: Turn the bolt at the hexagonal socket (instead of the nut) in anti-clockwise direction to release the saddle post.

Closing: In the reverse sequence

1. If the quick-release axle was completely removed from the hub, push it through the hub from the left-hand side (as seen in riding direction).

2. Place the spring and screw nut onto the axle. Now screw the screw nut on to the right-hand end now protruding out of the hub in clockwise direction.



3. In the case of quick-release levers for saddle post clamping: Turn the bolt at the hexagonal socket (instead of the nut) in clockwise direction to secure the saddle post.

4. Tilt the eccentrically pivoted lever so that it forms roughly the extension of the hub axle. Hold the lever in this position.

5. Now turn the screw nut of the hexagon socket until the eccentrically pivoted lever when turned by 90° about its pivot can only move against a resistance (it then forms more or less the straight extension of the hub axle).

6. Now press the lever by a further 90° up to its end position.

Danger of personal injury and material damage!

Incorrect use of the brakes can lead to dangerous riding situations, falls, accidents and material damage.

If the lever can be pushed too easily into its end position, the wheel is not clamped tightly enough and may slip or come loose while riding.
Risk of accidents!

- **Open the lever again and turn the screw nut correspondingly further in clockwise direction.**

If the lever can only be moved into its end position (= 90° to the hub axle) with very great force or not at all, on no account leave the lever in this position.
It may come loose during riding due to the eccentric pivot.
Acute risk of accidents!

- **Open the lever again and turn the screw nut correspondingly back in anti-clockwise direction.**
- **Check that the wheels are securely fitted as described in chapter 6.1.1.**

7.9 Use of clipless pedals

Danger of personal injury and material damage!

Clipless pedals are not safety pedals.
If the release force is set too high, you may not be able to twist the shoes out of the pedals quickly enough in an emergency situation.
If the release force is set too low, the shoe may come off the pedal unintentionally while riding.
In both cases there is an increased risk of accidents and injury.

- **Familiarise yourself with the use of the clipless pedals.**
- **Practice getting on and off the bike with the pedals several times at standstill. Sit on the saddle and steady yourself by holding on to a suitable, stable object. Clip the two shoes alternately in and out. Please consult your dealer if you have any questions.**
- **Familiarise yourself with the release mechanism by careful practice rides.**
- **Find the optimum release force for yourself.**
- **Practice getting on and off the bike with different release force settings.**
- **For details of adjusting the release force, please consult the component user manual supplied with the bike and/or contact your dealer.**

In unclear traffic situations and in difficult terrain it is often necessary to unclip one or even both shoes

- **Practice this alternately on both sides.**
- **Place your shoe on the middle of the pedal when pedalling without clipping in.**
  If necessary you can then support yourself with one or both legs on the ground.

With clipless pedals, shoe and pedal are firmly linked in vertical direction. You can therefore not only press the pedal down when riding, but also pull it up. In order to be able to use a clipless pedal you need the appropriate shoes for the pedal system in use that are fixed to the pedal clip supplied with the pedal.

1. Have this installation carried out by your dealer.
2. Getting on to the pedal:

   a) Move the pedal to its lowest position.

   b) Position the hook tip on the shoe in the front recess of the pedal with the tip of the shoe facing downwards.

c) When the hook tip is in the right position in the pedal,
press down firmly with the whole of your foot until the clamping mechanism engages quite audibly.

The shoe is now firmly linked to the pedal in vertical direction. Depending on the pedal system, the shoe may have some lateral freedom of movement.

3. Releasing your shoe from the pedal:
Twist your heel with a powerful jerk away from the bike.

7.10 Loading the luggage rack

Danger of personal injury and material damage!

A luggage rack is not intended for the transport of bulky goods or persons. Misuse can lead to dangerous riding situations, falls, accidents and material damage.

Transport only compact luggage items with a max. weight of 25 kg using suit-able restraint systems.

Your luggage rack is intended for the transport of compact luggage items and as the mounting for panniers.

- Place your luggage on the middle of the luggage rack.

- If you use panniers, ensure that they are suitable for attachment to your luggage rack. Install them according to the user manual. Consult the corresponding user manual and/or contact your dealer.
- Secure your luggage with the spring clip or special luggage straps.
- “Shake” your bike back and forth after loading.
- The luggage or panniers must not come loose.
- Your luggage or panniers must not hinder your freedom of movement when riding.
- Your luggage or panniers must not touch the wheels.
- Your luggage or panniers must not cover the lights or reflectors of the bike.

8 Faults When Riding

Danger of personal injury and material damage!

If you carry out maintenance measures for which you are not authorised, this can lead to dangerous riding situations, falls, accidents and material damage.

Have maintenance measures not listed in the following table carried out only by your dealer.

Danger of personal injury and material damage!

If you discover unusual handling behaviour, unusual noises or faults that are not described in this chapter, this can lead to dangerous riding situations, falls, accidents and material damage.

Have any problems not described in the following table checked and, where necessary, remedied by your dealer without delay.

8.1 Gear shift, drive

Problem	Possible causes	Remedy
Gears do not change or do not change smoothly	Shift lever not actuated correctly	Actuate the lever again
	Shift mechanism maladjusted	Have adjusted in an approved workshop
	On steep incline, too much pressure on the pedal and/or pedal motion too slow	Repeat shifting procedure in flat land Shift at standstill: Raise the rear wheel, turn the crank in drive direction until the desired gear is engaged.
Drive blocks during or after gear shifting	Chain jamming	Stop, actuate the switch in the opposite direction, raise the rear wheel, turn the crank against the drive direction. If the crank cannot be turned, on no account exert great force. Contact an approved workshop immediately.
Unusual noise such as cracking, loud grinding and/or banging	Drive/gearing components damaged	Contact an approved workshop immediately.

Problem	Possible causes	Remedy
Irregular resistance during the pedal movements	Drive/gearing components damaged	Contact an approved workshop immediately.
Chain jumped off sprocket	Wrong actuation of the gear shift (see chapter 7.7) Maladjusted or damaged gear shift mechanism fundamentally possible under unfavourable conditions	Stop riding, lift the chain onto the next sprocket by hand, raise the rear wheel, turn the crank in drive direction (only if it turns easily). If a repair is not possible in this way, contact an approved workshop immediately.
Chain jumped off during or after gear shifting	Wrong actuation of the gear shift (see chapter 7.7) Maladjusted or damaged gear shift mechanism fundamentally possible under unfavourable conditions	Stop riding, actuate the gear shift in the opposite direction, lift the chain onto the next sprocket by hand, raise the rear wheel, turn the crank in drive direction (only if it turns easily). If a repair is not possible in this way, contact an approved workshop immediately.
Chain jumps off continuously	Constant wrong actuation of the gear shift mechanism Maladjusted or damaged gear shift mechanism	Operate the gear shift mechanism only as described in chapter 7.7. If the chain jumps off despite correct actuation of the gear shift mechanism, contact an approved workshop immediately.

8.2 Brakes

Danger of personal injury and material damage!

The brakes on your bike are among the most important components for your riding safety.
Incorrectly functioning brakes can lead to dangerous riding situations, falls, accidents and material damage.

- **Contact your dealer immediately in the event of even the slightest malfunction or decreasing braking effect.**
- **Ride your bike again only when it has been properly repaired by your dealer.**

Problem	Possible causes	Remedy
Brakes do not work	Brakes not correctly installed	Install correctly as described in chapter 10.1
	Brakes damaged	Contact an approved workshop immediately.
Decreasing braking effect, brake levers can be pulled too far	Brake blocks or brake pads worn	Have the brake blocks or brake pads replaced immediately in an approved workshop.
	Brake cables stretched, worn or clamp damaged	Contact an approved workshop immediately.
	With hydraulic brakes: Brake system leaking	Contact an approved workshop immediately.

8.3 Frame and suspension

Danger of personal injury and material damage!

Faults in the frame and suspension can lead to dangerous riding situations, falls, accidents and material damage.

- **Contact your dealer immediately in the event of even the slightest malfunction.**
- **Ride your bike again only when it has been properly repaired by your dealer.**

Problem	Possible causes	Remedy
Noises: Cracking, banging, grinding, etc.	Frame and/or suspension damaged	Contact an approved workshop immediately.
Improper suspension function	Suspension not correctly adjusted	Adjust correctly according to the component user manual supplied with the bike.
Improper suspension function despite correct adjustment	Suspension damaged	Contact an approved workshop immediately.

8.4 Mudguards, luggage rack, lights

Danger of personal injury and material damage!

Faults in the mudguards, luggage rack and lights can lead to dangerous riding situations, falls, accidents and material damage.

- **Contact your dealer immediately in the event of even the slightest malfunction.**
- **Ride your bike again only when it has been properly repaired by your dealer.**

Problem	Possible causes	Remedy
Noises: Cracking, banging, grinding, etc.	Mudguard or luggage rack parts loose	Contact an approved workshop immediately.
Lights partially or completely without function	Bulb(s) blown	Replace the bulb(s) Please consult your dealer.
	Cables damaged	Contact an approved workshop immediately.
	Dynamo defective	

8.5 Wheels and tyres

Danger of personal injury and material damage!

Faults in the wheels and tyres can lead to dangerous riding situations, falls, accidents and material damage.

- **Contact your dealer immediately in the event of even the slightest malfunction.**
- **Ride your bike again only when it has been properly repaired by your dealer.**

Problem	Possible causes	Remedy
Wheels “jump”	Tyre damaged Spoke broken	Contact an approved workshop immediately.
Noises: Cracking, banging, grinding, etc.	Foreign matter has become trapped in the wheel	Remove the foreign matter. Use your bike very carefully after that. Have your bike checked in an approved workshop for possible consequential damage.

Problem	Possible causes	Remedy
	Damage to the wheel	Contact an approved workshop immediately.
“Spongy” riding behaviour	Tyre pressure too low	Increase the tyre pressure (see chapter 6.1.3). If the same riding behaviour occurs again fairly shortly thereafter, the tyre has a slow puncture (see next line).
Increasingly “spongy” riding behaviour Very unusual wheel rolling behaviour (you feel every small stone)	Flat tyre	Replace inner tube, possibly also tyre and rim tape; in the case of tubeless tyres: Replace the tyre. Contact an approved workshop(*) immediately. The bike must not be used until then. (*): You can replace inner tube, tyre and rim tape yourself if you have sufficient experience. Have your dealer show you how to do this and practice this work until you are familiar with it. For removal and installation of the wheels, see chapters 7.9 and 10.2.

9 After an Accident or Fall

Danger of personal injury and material damage!

Damage after an accident or fall can lead to dangerous riding situations, falls, accidents and material damage.

- **Contact your dealer immediately after an accident or fall.**
- **Ride your bike again only when it has been properly repaired by your dealer.**

After a fall you must always have all damaged bike parts such as

- Handlebars
- Bar ends
- Handlebar stem
- and crank

replaced.

All other parts of the bike must be inspected by your dealer and replaced, if necessary.

Danger of personal injury and material damage!

More and more bikes are being equipped with carbon components.

Carbon components are very delicate and can lead to dangerous riding situations, falls, accidents and material damage if incorrectly installed or after slight damage.

- **Observe all the special instructions on installation, care, maintenance and inspection of these parts in the components user manuals supplied with the bike.**
- **Have installation work of or on carbon parts carried out only in an approved workshop.**
- **After damage or falls, always contact your dealer.**
- **Use your bike again only when he has replaced the damaged parts or has assured you that the bike is safe to use.**

10 Transporting the Bike

Danger of personal injury and material damage!

An unsuitable transport system can cause damage to safety-relevant parts of the bike and lead to dangerous riding situations, falls, accidents and material damage.

Transport this bike only inside your car.

This bike may only be transported inside motor vehicles. Ensure that the bike is secured for transport and is not damaged e.g. by other luggage items.

Front and rear wheel and the saddle post with saddle may be removed for transport if they are fitted with quick-release axles. Remove these parts only if you are sure that you can install them again correctly. See chapter 7.9.

If your wheels are bolted to the frame (e.g. with hub gears), please contact your dealer.

Danger of material damage!

If your bike is transported inside the motor vehicle, exposure to direct sunlight may cause the tyres to burst or come off the wheel rim.

Let the air out of the tyres before transport and inflate them again after transport (see chapter 6.1.3.).

10.1 Removing and installing wheels

Danger of personal injury and material damage!

Incorrectly installed wheels can lead to dangerous riding situations, falls, accidents and material damage.

- **Have your dealer show you how to correctly remove and install the wheels.**
- **Practice these operations at least once under his supervision and control.**
- **Carry out removal and installation only when you are sure that you can do this correctly.**

Danger of material damage!

Hydraulic brakes must never be actuated after removal of the wheel!

Should your bike have disc brakes, please use the prescribed transport locking devices provided for transport after removal of the wheel.

Remove these only immediately before installing the wheel again.
Observe the component user manual provided.

Danger of personal injury and material damage!

Bikes with rim brakes only:
The brake blocks may be twisted by the tyres during removal and installation of the wheels.

- **Pay attention to the correct position of the brake blocks after installation of the wheels (see chapter 6.8).**
- **If they are not in the correct position, contact an approved workshop immediately.**

You may remove the wheels from your bike for transport and install them again after transport if they are fitted with quick-release axles.

If your bike has rim brakes, pay attention that the position of the brake blocks is not changed by the tyres. This could easily happen with large-volume tyres. If the tyre does not fit easily between the brake blocks, release a corresponding amount of air. Inflate the tyres again after installation to the correct tyre pressure.

10.1.1 All categories except RACE Series

First remove the front wheel:

1. Release the rim brake.

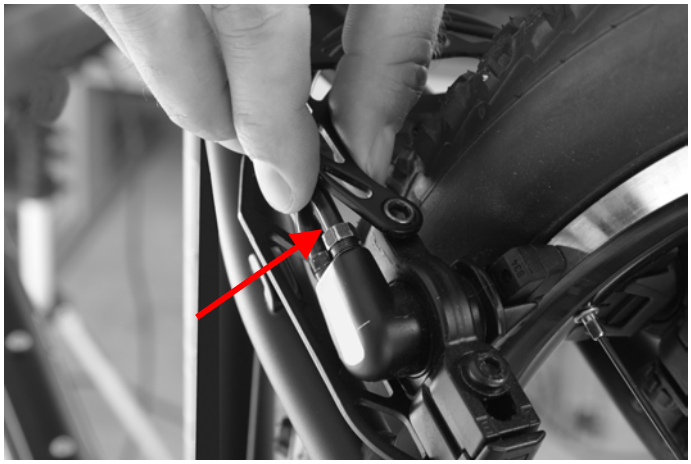
   a) On rim brakes with cable (e.g. from Shimano):

   - Press the brake pads together with one hand and unhook the cable guide from the bracket with the other.

b) With Magura hydraulic rim brakes:

- Fold over the mounting lever and pull the whole brake with brake booster from the brake holders.
- Ensure that any loose spacer washers are not lost.


CLOSE

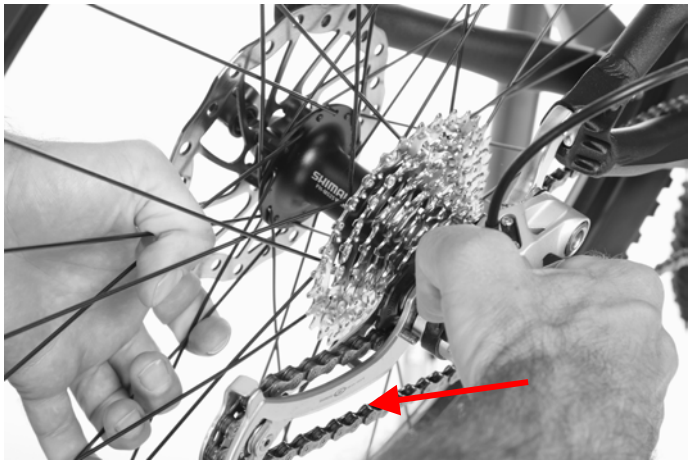


2. Shift to the smallest pinion of the sprocket assembly on the rear wheel (see chapter 7.7).

- To do this, raise the bike at the rear, actuate the corresponding switch and turn the crank in drive direction by hand until the chain is engaged on the smallest pinion.

3. On the front wheel with hub dynamo (if installed):
   - Disconnect the plug connector between dynamo and wiring.
4. Loosen the wheel hubs.
   - Open the quick-release lever on your wheel (see also chapter 7.9 “Quick-release levers”).
   - Back off the lock nut until it is just still on the axle.

   With other clamping systems:
   - Loosen the clamping system as described in the component user manual supplied.
5. Remove the wheels from frame and forks.
   - Front wheel: Pick up the bike with the handlebars and pull the wheel out of the fork ends of the front-wheel forks.
   - Rear wheel: Raise the bike at the rear end and push the gear shift mechanism to the rear. In this position, push the rear wheel with alight pressure towards the opening in the frame.



6. After removing the wheels, lay the bike carefully on its left side.

Danger of material damage!

When the rear wheel has been removed, the frame and/or gear shift mechanism may be damaged.

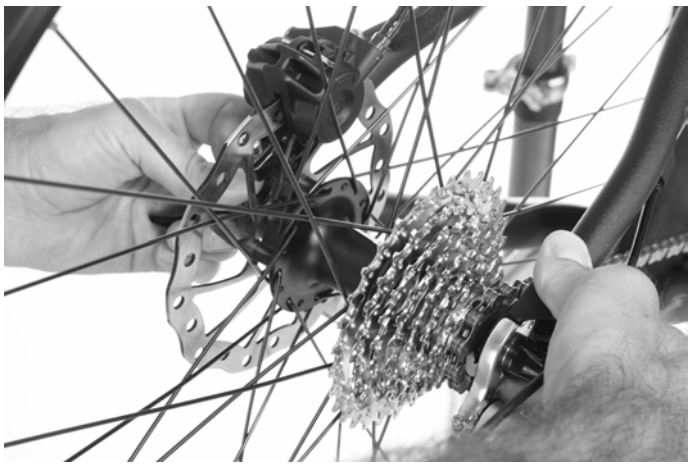
After removing the rear wheel, lay the bike on its left side or use a suitable assembly stand.

Installing the wheels.

First install the rear wheel.

1. a) Insert the rear wheel:
   - Raise the bike at the rear,
   - place the rear wheel under the frame so that the chain fits over the smallest pinion.
   - With disc brakes: Insert the wheel so that the brake disc slides smoothly between the brake pads.

- Lower the rear end carefully until the axle is on the stop of the open ends of the frame on left and right.



a) Insert the front wheel:

- Pick up the bike with the handlebars,
- position the front wheel under the fork ends of the front-wheel forks,
- With disc brakes: Insert the wheel so that the brake disc slides smoothly between the brake pads.
- Lower the forks carefully until the axle is flush with the stop of the fork ends on left and right.

2. Secure the wheel hubs.

- Clamping system with quick-release levers: See chapter 7.9.

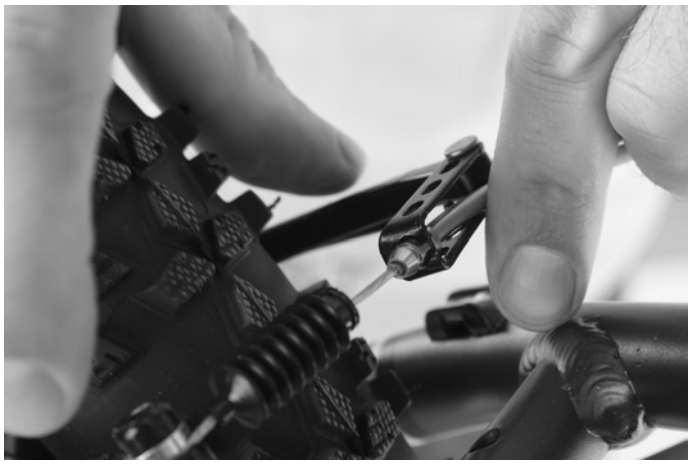
- With other clamping systems: Secure the hubs as described in the component user manual supplied.

3. Close the rim brakes

a) With cable brakes:

- Press the brake blocks together.

- Hook the cable guide into the bracket.



b) With hydraulic rim brakes: Install the wheel, reversing the removal procedure.

- Position the brake booster on the guide bolt
- Install any spacer washers in the correct position and push the brake onto the brake holders.

- Fold over the mounting lever again so that the brakes are fixed in place.

4. Ensure that the brake blocks contact the rim flank correctly when the brakes are actuated.

5. On the front wheel with hub dynamo (if installed):
   - Reconnect the plug connector between hub dynamo and wiring.
6. Check the installation:
   - Actuate the brakes.
   - If a brake block or brake pad continues to be in contact with the wheel rim or brake discs, this can indicate incorrect mounting of the hub in the fork ends.
   - In this case release the quick-release lever again, check and correct the position of the hub and close the quick-release lever again.
   - The brake (with rim brakes) does not have to be opened for this. If this does not improve the situation, contact your dealer immediately.
   - Ensure that the lighting system (if installed) is functioning correctly.
   - Ensure that the wheels do not touch either the mudguards or luggage rack (if installed).

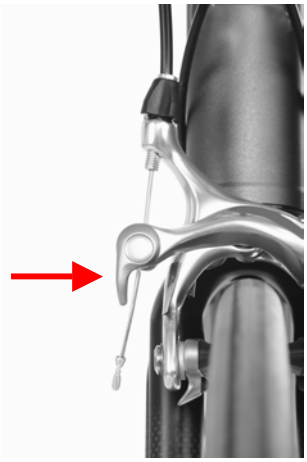
10.1.2 RACE Series

First remove the front wheel:

1. Release the rim brake.

   In the case of racing bike brakes from Shimano and Sram:

   - Push the lever upwards.



2. Shift to the smallest pinion of the sprocket assembly on the rear wheel (see chapter 7.7).

   - To do this, raise the bike at the rear, actuate the corresponding switch and turn the crank in drive direction by hand until the chain is engaged on the smallest pinion.

3. Loosen the wheel hubs.

   - Open the quick-release lever on your wheel (see also chapter 7.9 “Quick-release levers”).
   - Back off the lock nut until it is just still on the axle.

4. Remove the wheels from frame and forks.

   - Front wheel: Pick up the bike with the handlebars and pull the wheel out of the fork ends of the front-wheel forks.
   - Rear wheel: Raise the bike at the rear end and push the gear shift mechanism to the rear. In this position, push the rear wheel with alight pressure towards the opening in the frame.

5. After removing the wheels, lay the bike carefully on its left side.

Danger of material damage!

When the rear wheel has been removed, the frame and/or gear shift mechanism may be damaged.

After removing the rear wheel, lay the bike on its left side or use a suitable assembly stand.

Installing the wheels. First install the rear wheel.

6. a) Insert the rear wheel:
   - Raise the bike at the rear.
   - Place the rear wheel under the frame so that the chain fits over the smallest pinion.

- Lower the rear end carefully until the axle is on the stop of the open ends of the frame on left and right.

a) Insert the front wheel:

- Pick up the bike with the handlebars.
- Position the front wheel under the fork ends of the front-wheel forks.
- Lower the forks carefully until the axle is flush with the stop of the fork ends on left and right.

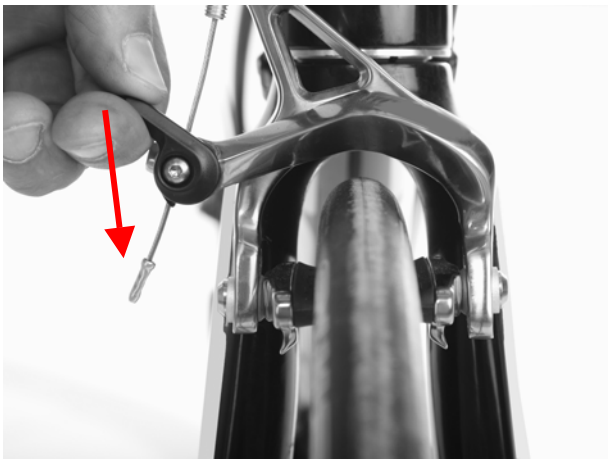
7. Secure the wheel hubs.

- Clamping system with quick-release levers: See chapter 7.9.

8. Close the rim brakes

In the case of racing bike brakes from Shimano and Sram:

- Press the lever downwards.



9. Check the installation:

   - Actuate the brakes.
   - If a brake block continues to be in contact with the wheel rim, this can indicate incorrect mounting of the hub in the fork ends.
   - In this case release the quick-release lever again, check and correct the position of the hub and close the quick-release lever again.
   - The brake (with rim brakes) does not have to be opened for this. If this does not improve the situation, contact your dealer immediately.

10.2 Install and remove saddle post with saddle

Danger of personal injury and material damage!

An incorrectly installed saddle post can lead to dangerous riding situations, falls, accidents and material damage.

Be sure to have your dealer show you how to correctly remove and install the saddle post.

Practice these operations at least once under his supervision and control. Carry out removal and installation only when you are sure that you can do this correctly.

You can remove the saddle post with saddle for transport and then install it again later.

The saddle post is secured in the saddle tube of the frame using a clamp with either a quick-release lever or a hex. socket head screw.

In the case of carbon saddle supports, special forms with two screws may be installed.

For a saddle clamp without quick-release axle you need an Allen key and a torque wrench of the appropriate size. Please consult your dealer.

Removing the saddle post:

1. Loosen the saddle clamp at the quick-release lever as described in chapter 7.9 or at the hex. socket head screw with an appropriate Allen key.

2. Pull the saddle with saddle post out of the frame.

Installing the saddle post:

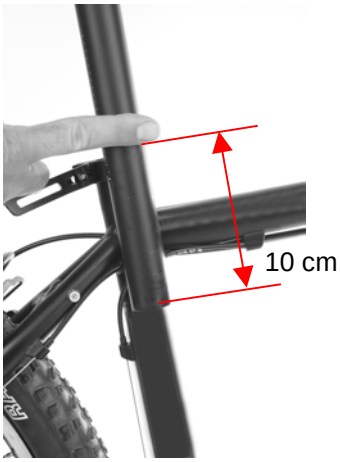
1. With metal saddle post and saddle tube:

   Grease the insertion area of the saddle post. (CAUTION! Does not apply to carbon saddle posts and or carbon frames! – In this case use special installation pastes)

2. With carbon saddle post and saddle tube:
   - The clamping area must be free from grease, or use a special installation paste for carbon parts.
3. Push the saddle with saddle post into the saddle tube of the frame until the required saddle height is obtained. In this position the lower end of the saddle post must be at least 10 cm below the upper edge of the saddle tube.

Do not rely on the marking on the saddle post.
Check the correct insertion depth as follows:

- Place a finger tip against the saddle post in installed condition immediately above the clamping bolt.
- Leave your finger in this position and pull the saddle post out of the saddle tube.
- Hold the saddle tube alongside the saddle tube so that your finger is again at the height immediately above the clamping bolt.
- In this position the lower end of the saddle post must be at least 10 cm below the upper edge of the saddle tube.



4. Turn the saddle so that the saddle tip is pointing in the direction of travel.
5. Ensure that the clamp is flush with the frame and that the slots in the saddle

tube and clamp are aligned.

6. Close the quick-release lever as described in chapter 7.9 or tighten the hex. socket head screw using a torque wrench.
Prescribed tightening torque: See table in chapter 3.2.

Danger of personal injury and material damage!

A too tightly clamped carbon saddle tube can break while riding and lead to dangerous riding situations, falls, accidents and material damage.

Observe the installation instructions and the prescribed tightening torque in the component user manual supplied with the bike. (There are no component user manuals here) The saddle tube clamp may only be tightened such that the saddle post does not lower or twist to the side while riding.

Mark the correct position of the saddle post for your height with a piece of adhesive tape.

11 Cleaning and Maintaining the bike

Danger of personal injury and material damage!

Corrosion can damage safety-relevant parts so that their strength is no longer assured. These parts can then break while riding and lead to serious accidents.

Corrosion is caused in particular by

- **Salt (e.g. salt from the roads in winter)**
- **Salty air (e.g. near the coast or industrial premises)**
- **Perspiration**

Even stainless materials can be affected by this corrosion.

If your bike is exposed to such corrosion-enhancing substances, it must be

- **Protected before any contact with these substances, and**
- **Cleaned and protected again after every contact with such substances**

Danger of material damage!

Do not use steam cleaners or high-pressure cleaners. The strong water jet can damage your bike.

Good care and maintenance increases the service life of your bike and its components. Clean and service your bike at regular intervals.

Use a gentle water spray or a bucket of water with a sponge for wet cleaning.

There are many methods of cleaning a bike. The following is a proven method for cleaning a heavily soiled bike:

1. Remove coarse soiling such as earth, stones, sand, etc. using a gentle water spray.
2. Allow the bike to dry for a while.
3. Spray the complete bike with a suitable cleansing agent.

With many cleansers and moderate soiling it is often sufficient to spray on the cleanser and to rinse it off again after the prescribed waiting time.
Stubborn soiling can be loosened e.g. with a radiator paintbrush after the waiting time before rinsing.

Danger of material damage!

Cleansers, lubricants and corrosion inhibitors are chemical products. Incorrect use can damage your bike.

- **Use only products that are expressly suitable for bikes.**
- **Ensure that these substances do not attack paintwork or rubber, plastic or metal parts. Contact your dealer for further advice.**
- **Observe the manufacturers' instructions for use of the products.**

4. Rinse off the whole bike with a gentle water spray and allow it to dry.
5. Clean the chain:
   - Pour a small amount of a suitable chain cleansing agent onto a clean, lint-free cotton cloth and wipe off the chain.
     Rotate the chain slowly opposite the drive direction while wiping.
   - Repeat this procedure as often as necessary with a clean part of the cotton cloth until the chain is clean.
   - Allow the cleansing agent to evaporate for approx. 1 hour.

If there is still cleansing agent between the chain links, the new lubricant will be immediately degraded and therefore has no lubricating effect.

- Apply lubricant suitable for bike chains sparingly to the chain links.

Danger of material damage!

Lubricant for motorbike chains will clog your bike chain and drive components.

Use only lubricants expressly approved for use on bike chains.

Danger of personal injury and material damage!

If too much lubricant is applied, it can drip onto and soil the wheel rim and brake disc. This would reduce the braking effect.

- **Remove any excess lubricant from the chain using a clean, dry and lint-free cotton cloth.**
- **Clean the wheel rim and brake disc with a suitable degreasing agent. Please consult your dealer.**

Danger of personal injury and material damage!

If spray wax or corrosion inhibitor gets onto the wheel rims or brake discs and/or the brake blocks or brake pads, this will reduce the braking effect.

- **Clean these parts using a suitable degreasing agent Please consult your dealer.**

6. Clean any remaining heavily soiled parts by hand using a suitable clean and lint-free cotton cloth and a suitable cleansing agent.
7. Spray the whole bike with a suitable spray wax or similar corrosion inhibitor.

Exceptions:

- Brake blocks or brake pads
- Wheel rims with rim brakes
- Brake discs
- Handles, brake/gear levers
- Saddle
- Tyres

8. Polish your bike after the prescribed waiting time with a clean, lint-free cotton cloth.
9. Clean the brake blocks, brake pads, wheel rims (with rim brakes) and brake discs by hand using a clean, dry, lint-free cotton cloth and suitable degreasing agent.

Clean and lubricate the chain as described above after

Every use in the wet

Every prolonged ride on sandy ground

Every 200 km at the latest

Danger of personal injury and material damage!

Worn parts and unrepaired bike damage can lead to dangerous riding situations, falls, accidents and material damage.

- **Clean and service your bike at regular intervals.**
- **Take your bike to an approved workshop at the prescribed maintenance intervals.**
- **Only in this way can worn parts and possible damage be discovered and repaired.**

Danger of personal injury and material damage!

Children and youths often place a greater strain on their bikes than adults.

- **Take such children's and youths' bikes to an approved workshop every 6 months for inspection.**
- **If you discover any damage to your children's and youths' bike, take it to an approved workshop for inspection immediately.**

Service plan:

Have the service work carried out at the prescribed intervals only in an approved workshop authorised by the manufacturer.

Type of inspection	With normal use	With frequent sporting, competitive or competition-like use
1st inspection	after 200 km or 2 months at the latest	after 100 km or 1 month at the latest
Subsequent inspections	every 2000 km or 1x per year	every 500 km or every 2 months
Inspection of brake pads/ brake blocks	every 400 km	every 100 km
Inspection of brake discs	every 400 km	every 100 km
Inspection of chain wear	every 500 km	every 250 km
Replacement of handlebars and handlebar stem	after an accident (see chapter 9) as specified by the component manufacturer or every 5 years at the latest	after an accident (see chapter 9) as specified by the component manufacturer or every 2 years at the latest

Under unfavourable conditions, your chain can wear quickly. Replacement in good time prolongs the service life of the sprockets and cassette.

12 Storing the Bike for Prolonged Periods

Danger of material damage!

Incorrect storage of a bike can damage bearings and tyres as well as promoting corrosion.

Observe the following tips.

1. Clean and service your bike as described in chapter 11.
2. Store your bike only in dry rooms where it is not exposed to excessive dust.
3. Use suitable bike stands (e.g. tripod, wall hooks). Please consult your dealer.
4. If your bike is standing with one or both wheels on the floor:
   - Raise your bike every 2-3 weeks and turn the wheels a few rotations by hand.
   - Move the handlebars back and forth a few times.
   - Turn the crank a few revolutions opposite the drive direction by hand.
5. Before using the bike again, carry out an inspection as described in chapter 6.

13 Warranty, Guarantee

General

The warranty for GHOST bikes is fundamentally subject to the statutory provisions or any agreements reached with the respective dealer. Contact person for warranty claims is the dealer from whom the GHOST bike was purchased. If a fault or defect covered by the warranty occurs in a GHOST bike within the warranty period, please contact the respective dealer who will handle the warranty claim for you.

Stability guarantee on frames from model year 2008

In addition to the statutory warranty, GHOST gives a stability guarantee of 3 or 5 years on the frame, depending on the frame type, if you as ultimate customer complete the guarantee card contained in the user manual and return it to GHOST. Alternatively you can also make an online registration. The guarantee period starts with the purchase of the new bike by you as ultimate customer from an authorised dealer. If the guarantee card contained in the user manual is not returned to GHOST or the bike is not registered online, no guarantee will apply. This guarantee does not infringe your warranty entitlements.

The following guarantee periods apply:

- 1. The 3-year guarantee is possible for Freeride, Downhill, Dirt, Dual, and carbon frames.
- 2. The 5-year guarantee is possible for all frames not falling into the categories under 1.

The guarantee applies only to the frame construction and not to the paintwork and decoration.
The guarantee does not cover:

- Faults and damage attributable to a failure to observe the instructions and tips given in the user manuals.
- Faults and damage attributable to force majeure, accident, improper use, incorrectly performed repairs, lack of maintenance and care or to wear.
- Faults and damage attributable to original spare parts not being used when replacing parts.
- Modifications to the product not previously approved by us.

In the event of a complaint within the above guarantee period but outside the warranty period, only the defective frame will be repaired or replaced. We will not bear the costs necessary or incurred for rebuilding of the frame or for shipment and/or replacement of a frame within the guarantee period. Should a frame of the same type no longer be available in the event of the necessity to replace a frame, GHOST reserves the right to supply an alternative frame which may differ in form and colour from the original frame, but which is of an equal or higher quality. The user is not entitled to claim the supply of a frame of the same type. The warranty entitlements continue to apply alongside this guarantee.

14 Delivery Certificate

In view of statutory regulations with respect to the information obligation in the event of recalls, and also in conjunction with warranty and guarantee claims, this delivery certificate must be completed before or during the handover of a sold bike. The dealer must go through all details of the delivery certificate with the customer, complete the respective parts and sign the certificate. With his signature the dealer confirms that he has carried out an inspection of the bike according to the following checklist and has instructed the customer on the proper use of the bike in accordance with the user manual. A copy of the signed form is to be kept by the dealer for documentation purposes. The original should remain in this user manual.

Dealer / vendor

Name of vendor: ……

Company: ……

Street: ……

Post code / city: ……

Country: ……

Telephone 1: ……

Telephone 2: ……

Telefax: ……

E-mail: ……

Customer / buyer

Family name: ……

First name: ……

Date of birth: ……

Street: ……

Post code / city: ……

Country: ……

Telephone 1: ……

Telephone 2: ……

E-mail: ……

Subject of purchase

Complete model designation ……

Frame number …… Frame height: …… Date of purchase: ……

GH number: …… Model year: …… Invoice No.: ……

Handover Inspection Checklist

on of brakes:

- Laying of brake cables / brake lines
- Adjustment of the hand brake lever(s)
- Adjustment of the brake pads
- Visual check for leaks on hydraulic brake systems
- Inspection of all mounting bolts of the brake system
- Function and efficiency of front and rear wheel brakes

Inspection of gear shift mechanism:

- Laying of gear shift cables and lines
- Adjustment of shift levers or twist grips
- Adjustment of end stops (dérailleur / shift mechanism)
- Adjustment of cable tension
- Function and ease of movement of shift mechanism
- Inspection of all mounting bolts of the gear shift mechanism

Inspection of frame:

- Basic functions and leak tightness of front forks
- Basic functions and leak tightness of spring strut
- Adjustment / free movement of head tube bearings
- Inspection of all mounting bolts of the frame components

Inspection of all mounting bolts of the rear section

Inspection of wheels:

- Concentricity and centering of the wheel rim
- Concentricity and seating of the tyre carcass
- Inspection of the spoke tension
- Tyre inflation pressure
- Correct and secure installation of the wheels

Inspection of other points:

- Adjustment and secure installation of handlebars and handlebar stem
- Secure installation of cranks and pedals
- Adjustment and secure installation of saddle and saddle post
- Secure installation of handlebar grips
- Tightness of chain assembly rivets
- Function of the lights on TR
- Adjustment and secure installation of luggage rack, mudguards and stand on TR
- Secure installation of other attachment parts

On handover of the bike:

- The purchased bike was handed over complete and in perfect condition, including user manuals.
- Verbal instruction on the proper and safe use of the bike, in particular on the running-in instructions for disc brakes – if installed – was given.
- Attention was drawn to the observance of the correspond¬ing instructions in the user manual(s).
- Attention was drawn to the guarantee provisions in the GHOST user manual.

Please tick off after checking the different items!

Notes: ……..

……..

……..

…… ……

Place, date Signature of vendor

15 Imprint

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Fax: +49 9632 925516
www.ghost-bikes.com
info@ghost-bikes.de

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Updates of the GHOST User Manual are constantly available for download at:
www.ghost-bikes.com